PACIFIC FISHERMAN

949 YEARBOOK NUMBER

MR. FISH PACKER— Why Gamble?

With food markets in a state of confusion due to increasing costs, increasing buyer resistance, and post-war dislocations of trade, why gamble with haphazard and inept sales efforts on your valuable pack?

Your sales problems will be solved by an experienced sales organization, and not by the clairvoyance of lately-come soothsayers.

We offer the packer proven experience gained through thirty-two years of successful merchandising.

So WHY GAMBLE?

MEMBERS:

National Food Brokers Association
National Fisheries Institute, Inc.
Association of Pacific Fisheries

REFERENCE:

The National Bank of Commerce of Seattle

McGovern and McGovern

SELLING AGENTS

675 COLMAN BUILDING, SEATTLE 4, WASH. MAIN 4133
1 Drumm Street, SAN FRANCISCO 11, CALIF., Yukon 6-0337

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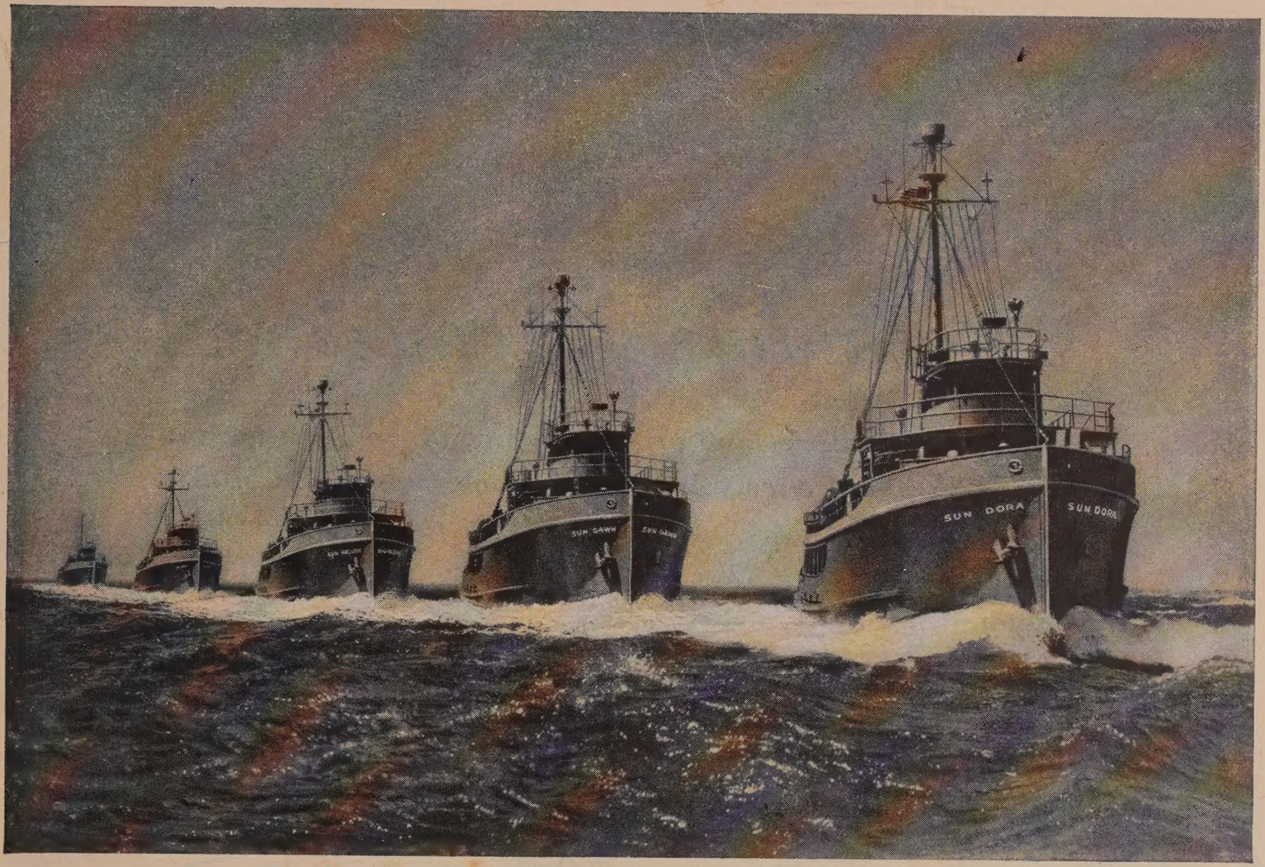
JOHN LAURENCE KASK MAR 17 1949



UNION DIESELS Power ALL FIVE!

—of these New
Additions to

SUN HARBOR'S
Tuna Clipper
Fleet

SUN DORA
SUN DAWN
SUN PACIFIC
LEONA C
OCEAN PRIDE
All Former YP's

Heading the parade of recent **UNION**-powered tuna clippers is the 128-foot SUN DORA, followed by her sisterships SUN DAWN, SUN PACIFIC, LEONA C and OCEAN PRIDE—all new members of the Sun Harbor Packing Company's San Diego fleet. These former YP vessels are all powered by Model "V6" **UNION** Diesels and are equipped with two Model "GA6" 125 K.W. **UNION** Diesel auxiliaries.

Internal Combustion
Engine Builders

FOR MORE THAN 50 YEARS OF SERVICE
This Brand Name was Awarded the
GOLDEN ANNIVERSARY CERTIFICATE
by the
BRAND NAMES FOUNDATION, Incorporated

Since 1885

UNION Diesels are available to meet your requirements. For economical, maximum power consistent with utmost dependability, contact **UNION** before you buy the engines for that new boat or repower job.

Thirty YP, tuna clipper type vessels, were built by the Navy Department. All were UNION Diesel powered.

The UNION DIESEL ENGINE *Company*

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World's oldest manufacturers of liquid fuel internal combustion engines

DEL MONTE

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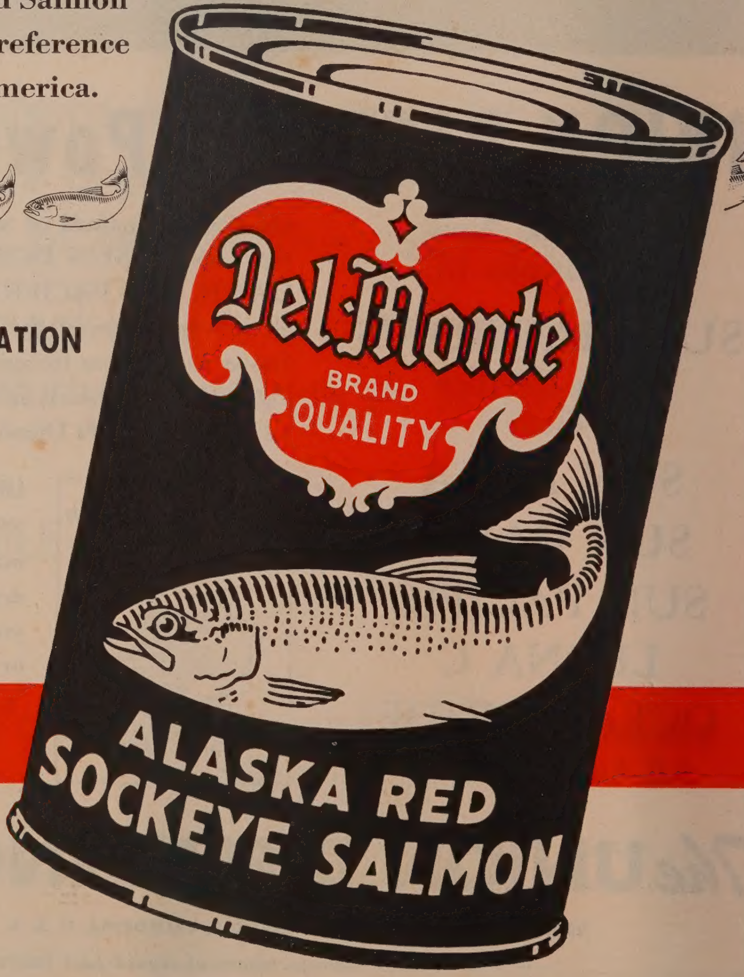
And it *is* remembered—and preferred—by millions of American housewives. Years of advertising on the whole line of Del Monte Brand Products, plus the familiar Del Monte red and green label in kitchens and grocery stores all over the country, *keep* housewives reminded.

Today, we can't supply you with nearly as much Del Monte Brand Salmon as we'd like to. But Del Monte is a name for *you* to remember, too. Because when Alaska's finest red salmon is plentiful again—Del Monte Brand Salmon will still enjoy the first preference from women all over America.

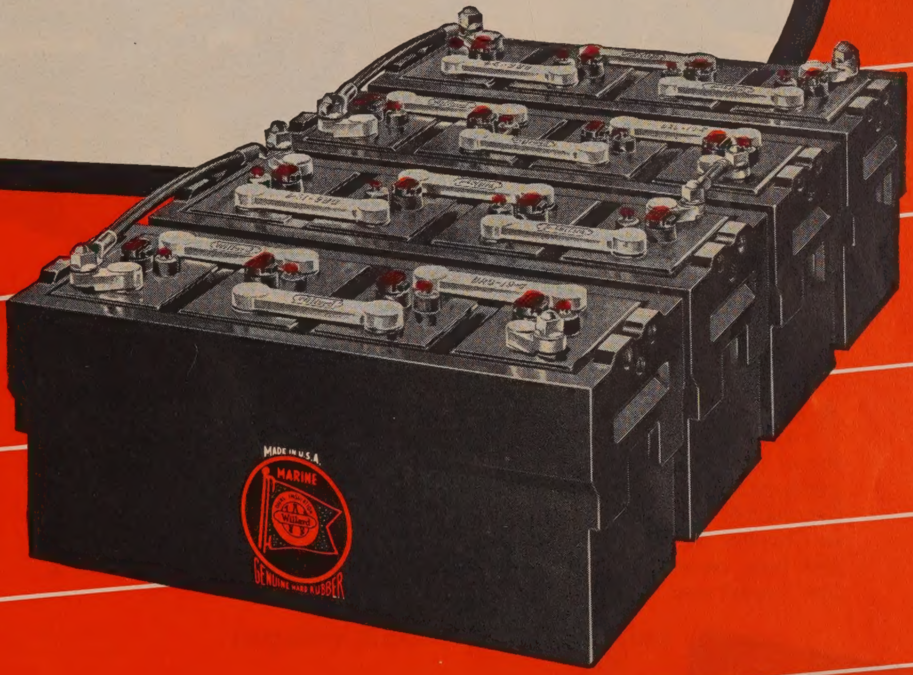


CALIFORNIA PACKING CORPORATION
San Francisco, California

Willard

Dependability and Performance mean

A Long, Economical Life



WILLARD AUXILIARY POWER AND DIESEL STARTING BATTERIES FOR 32 VOLT SYSTEMS

The 8-volt Willard Marine Batteries illustrated above are designed for shipboard auxiliary power and lighting, or for Diesel and large gasoline engine applications. Thick positive plates and Dual Insulation assure long life in heavy duty marine service. Hard rubber containers. Willard Safety-Fill Construction.

WILLARD STORAGE BATTERY COMPANY
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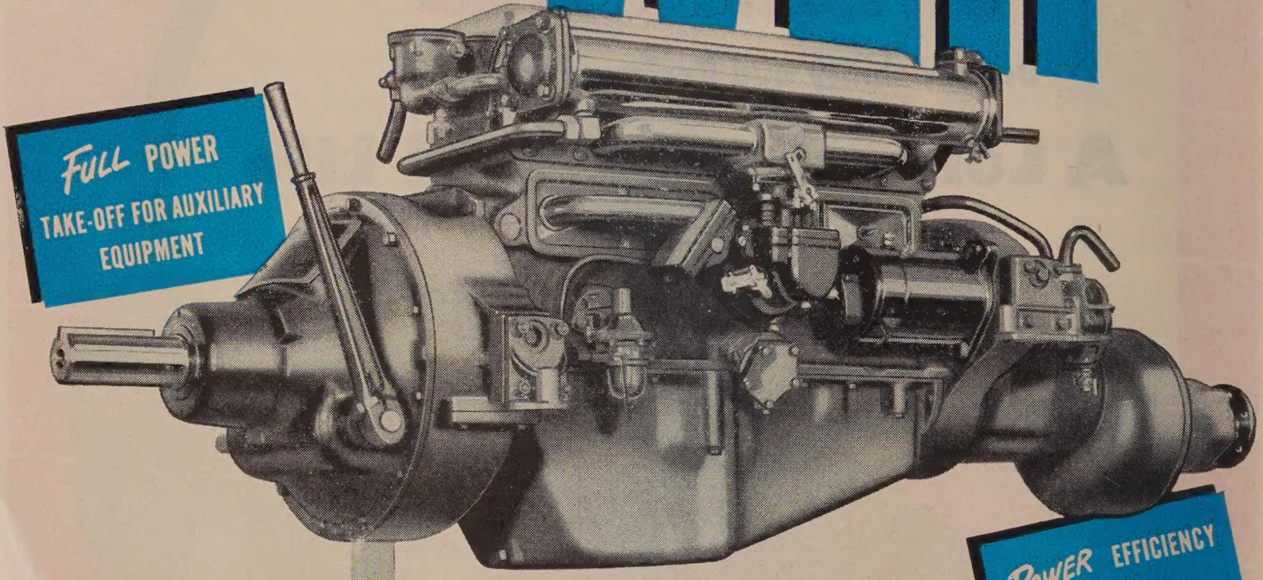
POWER



● To better serve the commercial trade, the Chrysler Marine Engine Division announces a full power take-off—available in *Ace, Crown* and *Royal* engines. This power take-off is assembled to the engine on the production line . . . making it an integral part of the engine for more dependable service. With the wide range of reduction gears obtainable in Chrysler Marine Engines—plus this rugged power take-off—commercial boat owners benefit from complete power for any purpose at a low initial cost.

MAIL TODAY FOR SPECIFICATIONS BULLETIN

MARINE ENGINE DIVISION
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12207 East Jefferson, Detroit 31, Michigan

Gentlemen:
Please send specifications and power curve bulletin on Series "C" Power Take-off with ☐ ACE ☐ CROWN ☐ ROYAL Chrysler Marine Engines.

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Address____________________

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"BUILT TO LIVE IN THE WATER"

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We wish to thank sincerely our many friends in the Pacific Coast fishing industry—old friends and new ones, too—for your generous patronage. We appreciate your business, and are looking forward to the privilege of again serving you, faithfully and well, in 1949.

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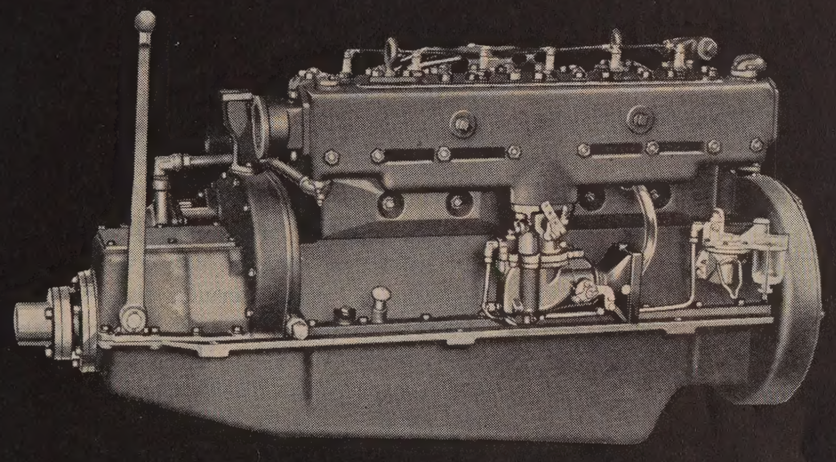
UNIVERSAL
100% MARINE DESIGN
COSTS NO MORE!

IT'S PRICED AS LOW
OR LOWER
THAN MOTORS ONLY PART MARINE!



FOR PRICES
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MAIL THIS COUPON
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Universal has held the price line! Now, more than ever, you can't afford *not* to have 100% marine power.

For example, take the powerful, smooth Universal Cruiser Six. This dependable 90 horsepower model, complete, actually costs less per cubic inch displacement than converted marine motors.

Up and down the complete Universal line this is true. You pay no more—*and often less*—for a motor built for the sea, not converted for it. Investigate, prove it to yourself. *Mail coupon!*

ABOVE ALL, *DEPENDABLE*

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100% MARINE
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Universal Motor Co.

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THE WORLD'S LARGEST BUILDER
OF 100% MARINE MOTORS

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Send me copy of your new illustrated handbook together with prices.

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Address.......................................

City or Port.........................*State*..........

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INCORPORATED 1922

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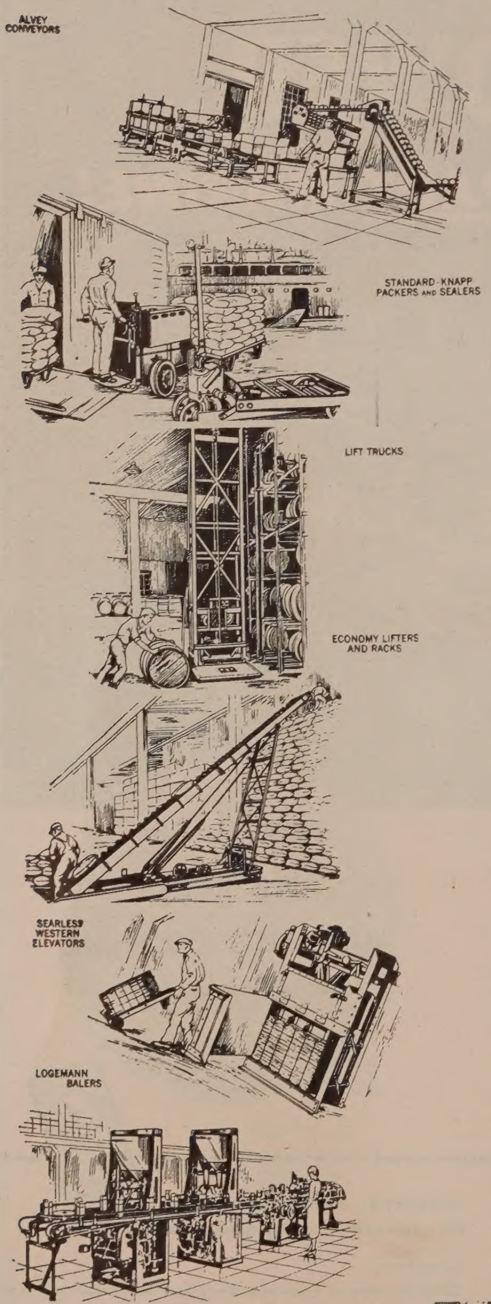
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AN OPEN LETTER . . .
TO THE FISHING INDUSTRIES
OF THE PACIFIC

We have always considered it a privilege to serve the Fishing Industries of the Pacific. Your highly seasonal operation with its inherent difficulties makes your job not an easy one.

This year the production facilities of the Standard-Knapp Corp., Alvey Conveyor Mfg. Co. and ourselves are such that we can give you the prompt and timely service that your industry needs and must have to function properly.

We look forward to handling your requirements this coming year, and wish to thank you for your continued and increasing interest in our products.

Very truly yours,

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FOOD INDUSTRIES EQUIPMENT COMPANY

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Phone Broadway 2822

3222 Western Avenue,
Seattle 99, Washington
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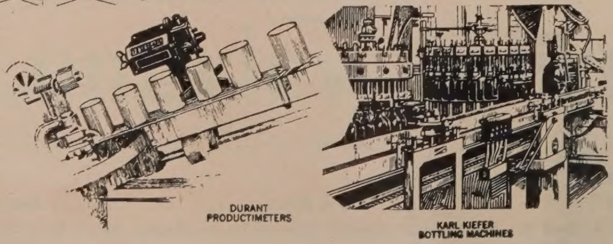
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KARL KIEFER BOTTLING MACHINES

WESTERN HEADQUARTERS

MERCHANDISE - HANDLING
AND PACKAGING EQUIPMENT

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Alaska
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Ketchikan
British Columbia
Vancouver
Seattle
United States
Stockton
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Los Angeles
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From the Lower Pacific

to the Bering Sea . . .

SOUND INSURANCE PROTECTION!

Along the whole sweep of the Pacific Coast, the Marine Office of America is on guard to protect from loss the substantial marine interests of the Salmon Industry and the great West Coast Fisheries.

This protection is *sound*, depression-proof protection, as strong as money can buy—for the Marine Office represents 15 leading Marine and Fire Companies—one of the largest and strongest groups in the United States.

Furthermore, the *strength* of its protection is matched by the *efficiency* of its service with offices throughout the United States—claims and settling facilities throughout the world.

Sound insurance protection is vital to the successful operations of the fishing industry of the Pacific. *The Marine Office of America provides it!*

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Paul A. Carew, Manager
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Seattle 4, Washington

Pacific Department:
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San Francisco 4, California

Service Offices:

530 West Sixth Street
Los Angeles 14, California

22 North San Joaquin
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FISHERIES COMPANY

1826 EXCHANGE BLDG.
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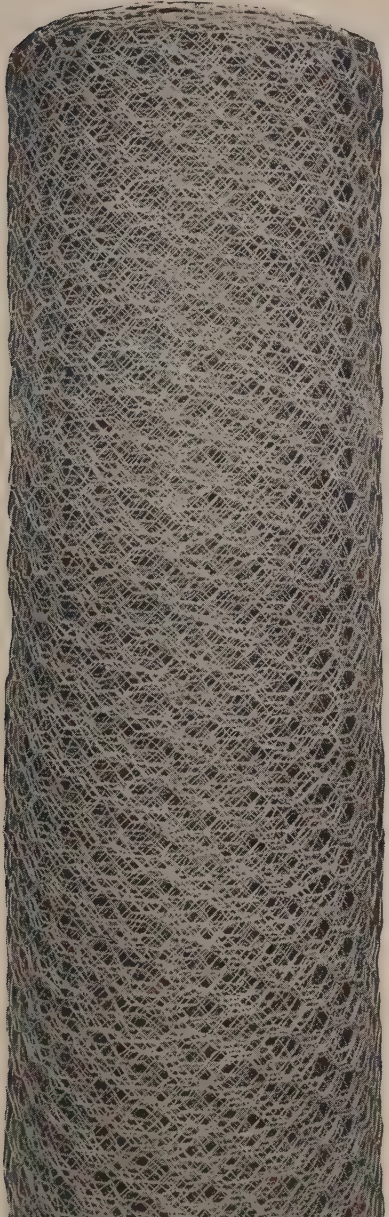
ALASKA
CANNED SALMON

ALASKA CANNERIES:
SHEARWATER AND PORT BAILEY

EDWARDS



WIRE FISH TRAP NETTING

MADE IN ALASKA

At the Edwards Plant in Ketchikan

●

WIRE ROPE

MADE ON THE COAST

Wire Mill and Rope Works — South San Francisco

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Distributed to the Salmon Packers by

PACIFIC MARINE SUPPLY CO.

SEATTLE, WASHINGTON

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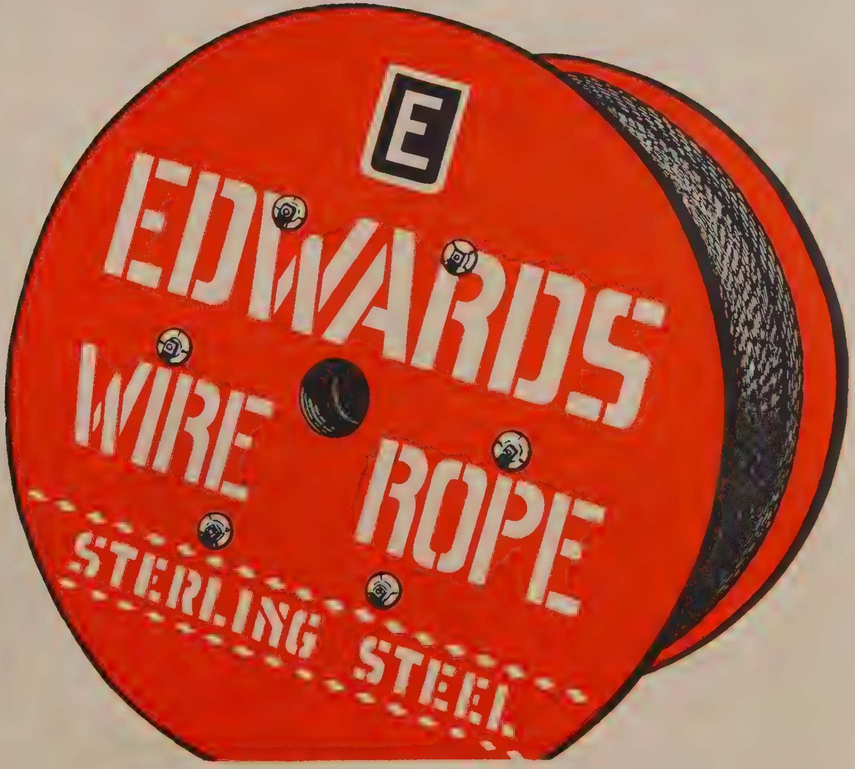
E. H. EDWARDS COMPANY

Main Office—625 Market Street
SAN FRANCISCO, CALIFORNIA



HOW MUCH OF EACH CATCH DOES YOUR ROPE COST?

PLYMOUTH CORDAGE CO., PLYMOUTH, MASS.

Pacific Marine Supply Co., 1223 Western Ave., Seattle 1, Wash.
Oregon Marine Supply Co., 235 S. W. First Ave., Portland 4, Ore.
Cincotta Bros., 169 Jefferson St., San Francisco 11, Cal.
Rochester Ropes Inc., 715 Bryant St., San Francisco 7, Cal.
Schou-Gallis Co., Ltd., 250 Sacramento St., San Francisco 11, Cal.
Johnson & Joseph Co., 56 Sacramento St., San Francisco 11, Cal.
Marine Hardware Co., 509 Beacon St., San Pedro, Cal.
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Good rope costs less, for it makes the difference between a big haul and an ordinary catch. On every run, it means more money for you because it stands up under work that parts inferior lines.

For generations fishermen have recognized the *durable* strength of Plymouth Ship Brand Manila Rope. They know they can expect bigger hauls without breakage, steadier use without the delays and the extra work of repairs, and longer use without replacement. That is why it will *cost you less* in the long run.

Only selected grades of pure Manila fiber go into Plymouth's Ship Brand. It is made by men who know the fishing industry's need for the best in rope—Plymouth's most skilled craftsmen, trained in the traditions of over a century of fine ropemaking.

PLYMOUTH
Cordage Products

PLYMOUTH
TRADE MARK
1824

THE ROPE YOU CAN TRUST BECAUSE IT IS ENGINEERED FOR YOUR JOB

DEPENDABLE
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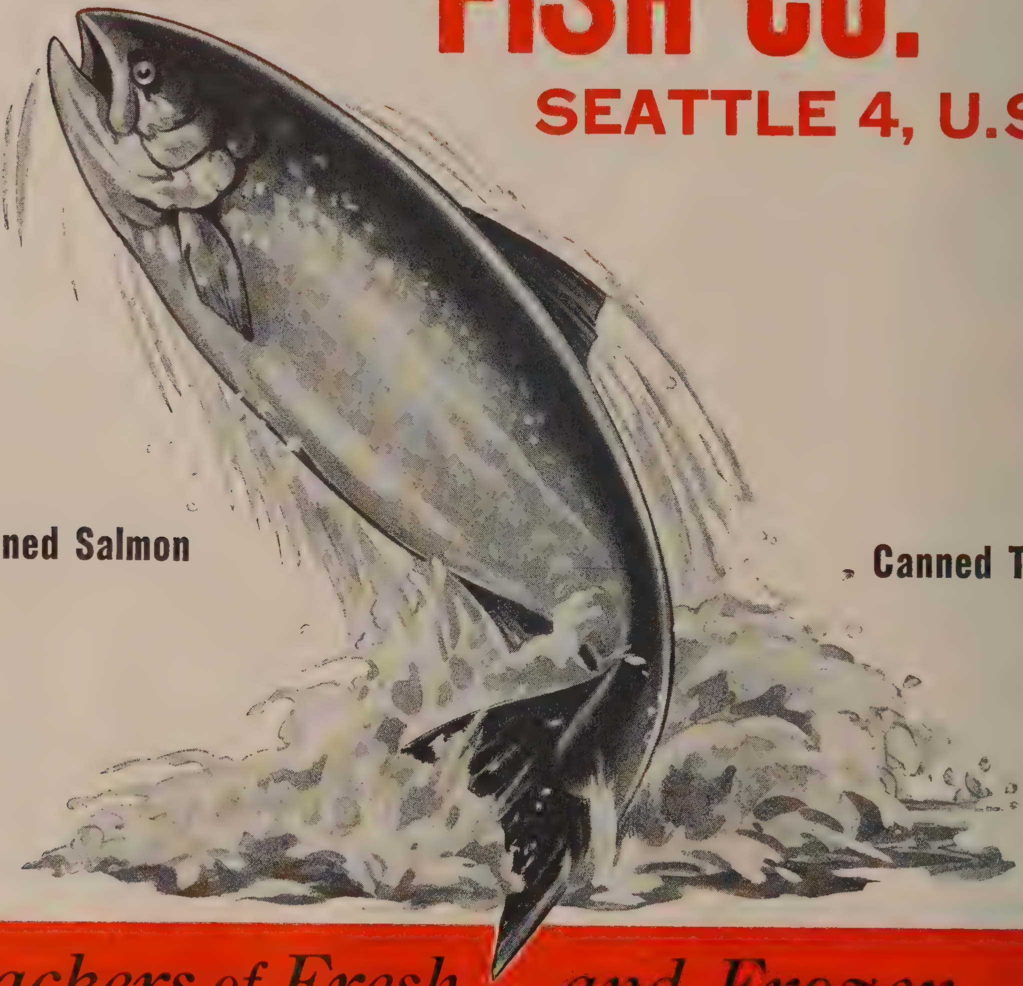
SINCE - 1897

PACIFIC MARINE SUPPLY CO
1223 WESTERN AVE • SEATTLE 1, WASHINGTON

SEBASTIAN-STUART FISH CO.

SEATTLE 4, U.S.A.



Canned Salmon

Canned Tuna

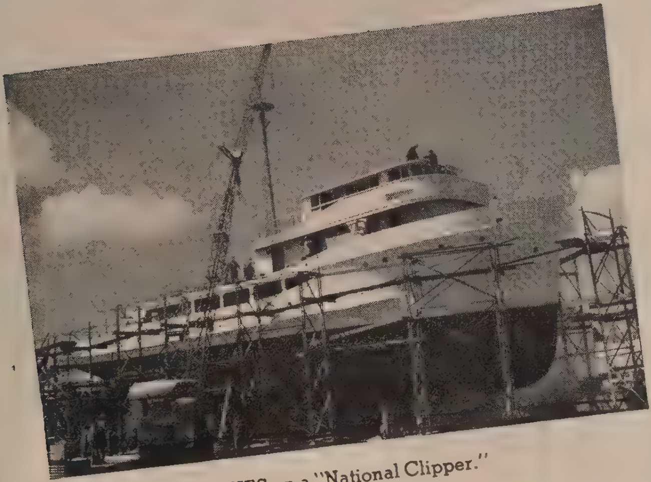
Packers of Fresh and Frozen

SALMON HALIBUT

Mild Cured SALMON

NATIONAL IRON WORKS is "TUNA BOAT HEADQUARTERS"

for REPAIRS and CONSTRUCTION



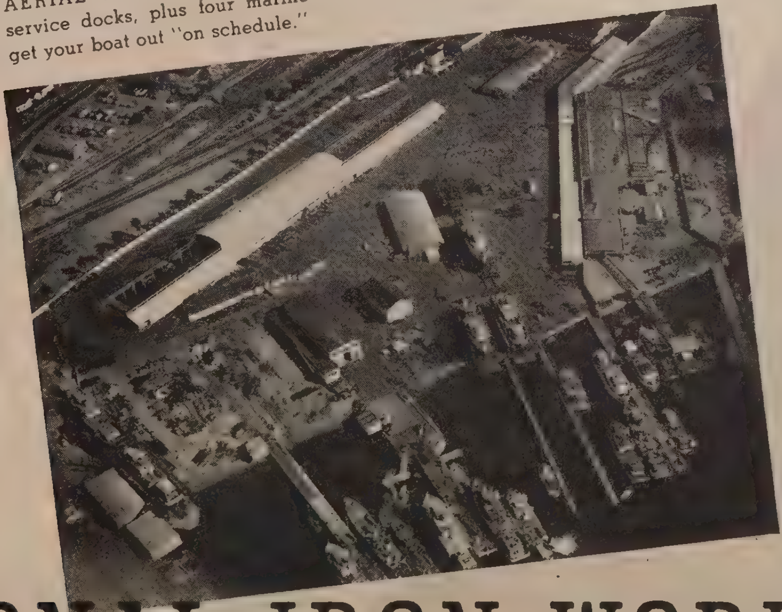
FINISHING TOUCHES on a "National Clipper." These sturdy, welded-steel craft bring in more pay loads with less maintenance worry.

EACH YEAR, more and more south coast fishermen rely on National Iron Works for expert maintenance and repair service.

Home of the famous welded-steel "National Clippers"...N.I.W. offers you complete drydock facilities, plus the services of over 150 skilled carpenters, shipwrights, and mechanics.

SEE N.I.W . . . for expert repair, maintenance, or construction.

AERIAL VIEW of N.I.W.'s busy yard. Three service docks, plus four marine railways, help get your boat out "on schedule."



NATIONAL IRON WORKS

NIW

HARBOR DRIVE AT 28th STREET
MAIN 4065 • SAN DIEGO 12, CALIF.

COAST FISHING COMPANY

— *Packers of* —

California Sea Foods

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SARDINES
TUNA · MACKEREL

Fish Meal and Oil

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— BRANDS —

BILTMORE
FLAKIES
MERMAID SUPREME
SATISFACTION
WAVE KIST
TREASURE

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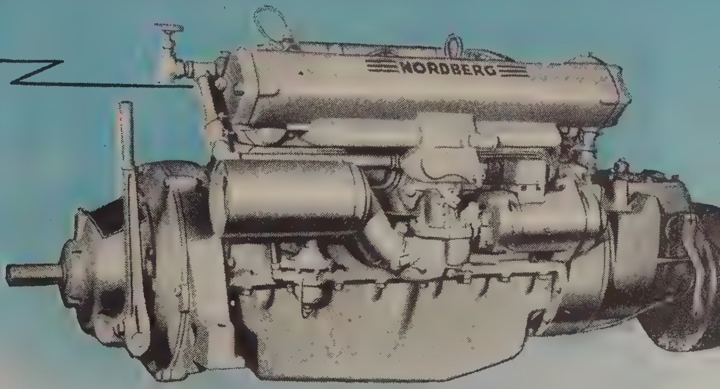
WILMINGTON, CALIFORNIA

Cable Address: "COFISCO" Codes Bentley; Cal Pack; A. B. C. (5th Edition)

STORM WARNING



NORDBERG GASOLINE MARINE ENGINES

. . . full 7 main bearing heavy-duty marine engines for rugged service. Built in three 6-cylinder models, up to 135 H.P. at 3000 R.P.M. for direct drive or with 1.88, 2.44, 3.32 and 4.12 reduction gear ratios. Available with sturdy front end power take off. *Send for Bulletin 1438.*

when the going gets tough NORDBERG POWER pays off!

NORDBERG MARINE DIESEL ENGINES

. . . for main propulsion and auxiliary service. Extra heavy built throughout, to meet the particular needs of fishing vessels, towboats and workboats, in a range of sizes from 220 to 1750 H.P. for direct or reduction gear drive. Illustrated is a typical four-cycle, six-cylinder supercharged Nordberg Diesel, available in 9″ x 11½″, 13″ x 16½″ and 16″ x 22″ bore and stroke. *Send for Bulletin 154.*

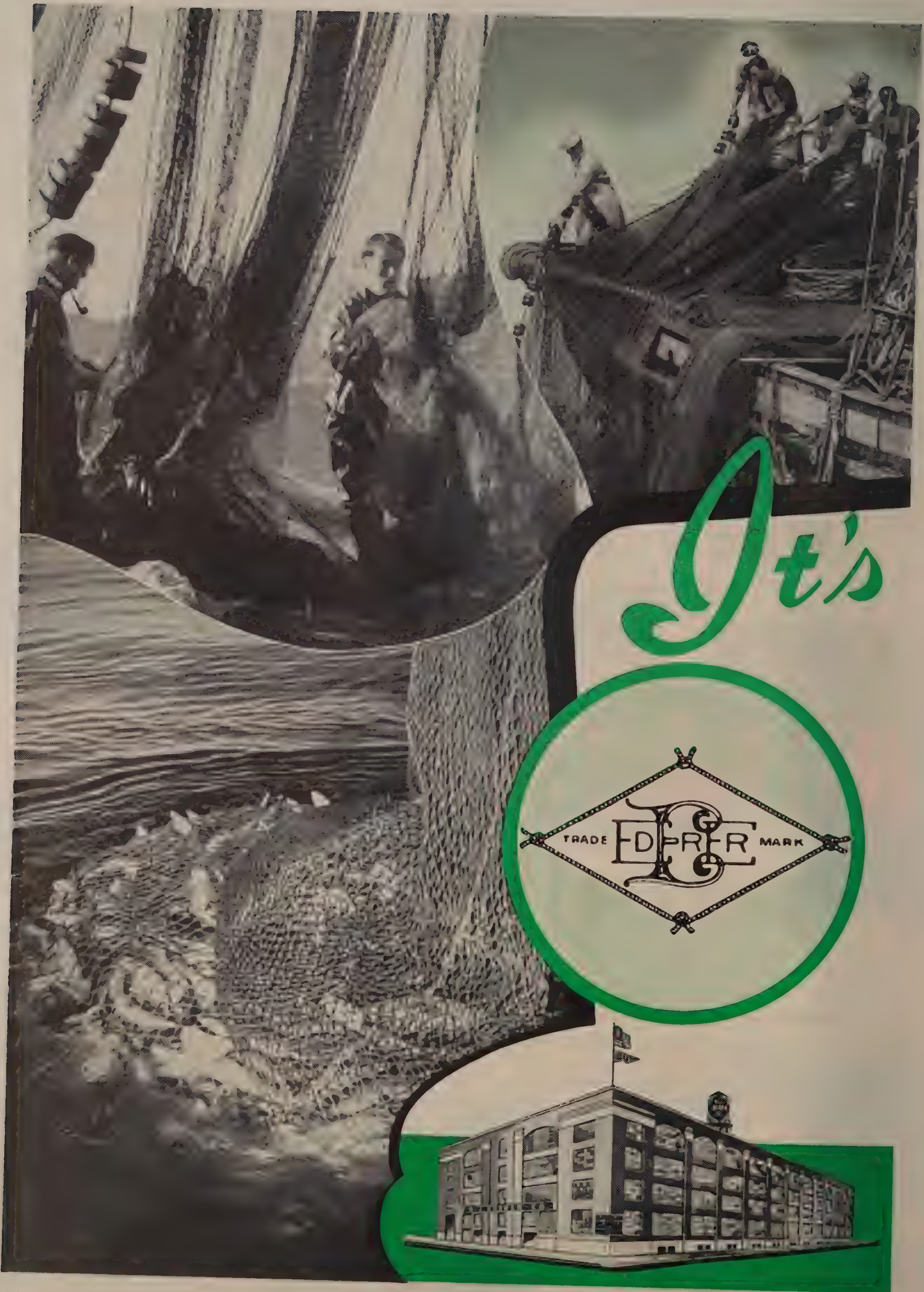
NORDBERG MFG. CO., Milwaukee 7, Wisconsin

BUSCH-SULZER
A DIVISION OF NORDBERG

NORDBERG

NORDBERG MACHINERY

DIESEL and GASOLINE ENGINES


It's
TRADE
EDERER
MARK

the net-worth that counts!

For over 65 years Ederer Company has been just as much a part of the commercial fishing industry as you and your fathers before you.

Throughout this period, Ederer Netting has put out to sea in ever increasing quantities—until today there is hardly a fisherman in the land who does not respect and esteem this product so vital to his industry.

Highest quality twine, accurate mesh, securely tied knots—and the "know how" to produce the finest netting for every type of commercial fishing: these are guaranteed by the name Ederer on your net.

Ederer is the trademark looked for by commercial fishermen because products bearing this mark help to increase production and profits.

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SALMON
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BRISTOL BAY PACKING COMPANY

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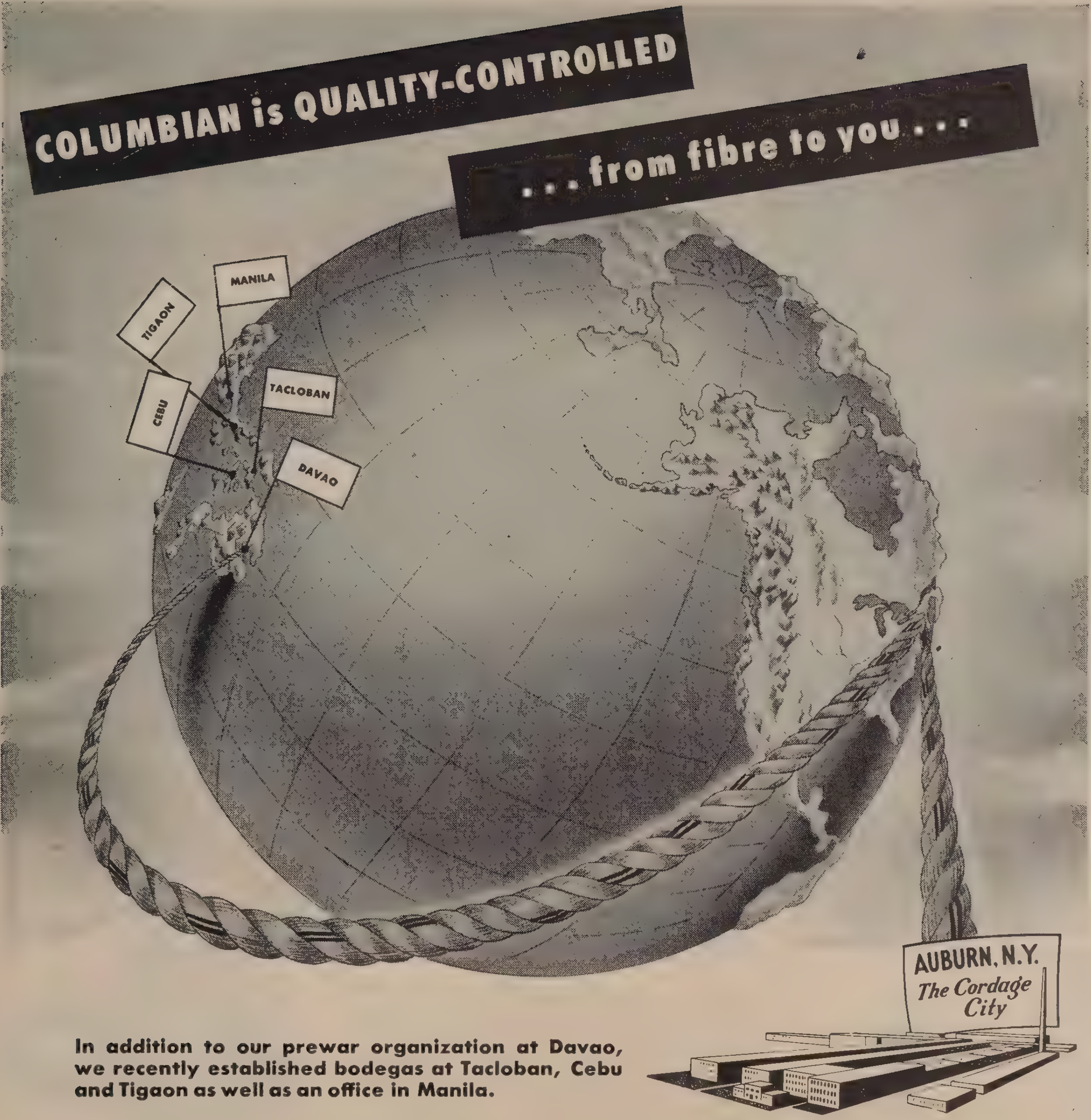
COMPANIES GENERAL OFFICES: SKINNER BUILDING, SEATTLE 1, WASHINGTON

The Bristol Bay Packing Company's modern salmon canneries at Pederson Point on Bristol Bay, Alaska.

Exclusive Selling Agents

Skinner & Eddy Corporation

SKINNER BUILDING, SEATTLE 1, WASHINGTON


COLUMBIAN is QUALITY-CONTROLLED
. . . from fibre to you . . .
MANILA
TIGAON
TACLOBAN
CEBU
DAVAO
AUBURN, N.Y.
The Cordage City

In addition to our prewar organization at Davao, we recently established bodegas at Tacloban, Cebu and Tigaon as well as an office in Manila.

Quality, in the final analysis, is the true measure of any rope. And quality-controlled rope like Columbian Tape-Marked depends on pure manila fibre . . . durability . . . strength . . . flexibility . . . and the Organization that produces it.

In the Philippines where the finest manila fibre is produced, Columbian resident buyers select the finest crops of the abaca tree. The fibre is then delivered in bales or "bultos" to Columbian's own bodegas (grading and packing plants) in Mindanao, Leyte, Cebu and Luzon.

Under strict Columbian supervision, the fibre is cleaned, cut, graded and baled for shipment by expert Filipinos. Finally, after due inspection by government officials, the bales are sent to the cordage city — to Columbian's plant at Auburn, N. Y.

Here under the same quality-controlled standards, Columbian produces the famous Tape-Marked Rope — the rope of the nation. On land and sea . . . and in the air . . . where dependability is vitally essential, quality-controlled Columbian Tape-Marked pure manila rope is the choice of men who know.

COLUMBIAN ROPE COMPANY

370-80 Genesee St., Auburn, "The Cordage City", N. Y.

There is no finer rope!

Red
White
Blue
Columbian
TAPE
MARKED
PURE MANILA ROPE

CANNED Seafood Sales in CHICAGO

are the specialty of the FROHMAN ORGANIZATION. We offer complete trade coverage, a 42 year background of marketing and sales promotion experience in the CHICAGO market, and nationally recognized high standards of service to cooperative and aggressive packers.

Our business is the establishment of repeat volume sales of Canned Fish and Seafoods. We are builders of brands. We are prepared to consult with any non-conflicting account to plan a progressive sales program.

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FOR CANNERS AND PACKERS OF FOODS
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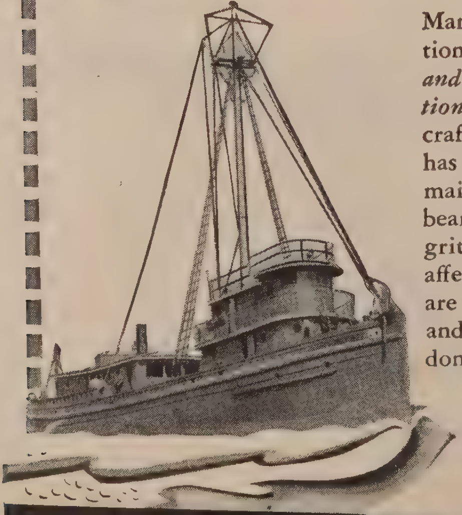
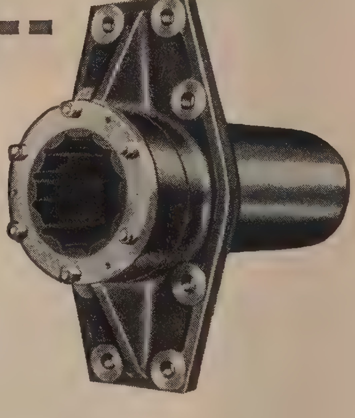
Seeing YEARS OF Service
On Every Type Of Powered Craft Afloat



Many Cutless Rubber Bearings in operation today are 9, 10 11, even 15 years old, *and are still in condition for years of additional service.* On every class of powered craft afloat Cutless Bearing performance has reduced drydock time, repair and maintenance expense. Where conventional bearings are cut and worn by abrasive, gritty water, Cutless Bearings are scarcely affected. Particles entering the bearings are rolled by soft rubber into a groove and washed away before any damage is done.



See your nearest marine supplier or write to

LUCIAN Q. MOFFITT INC.
AKRON 8, OHIO
ENGINEERS and NATIONAL DISTRIBUTORS

B.F.Goodrich *Cutless* BEARINGS
PROPELLER SHAFT

FISHERMEN *prefer*

Paul's netting because

Pauls has established itself as a leader by providing top quality netting for all branches of the fishing industry. Pauls Netting is sold by well established dealers who can help advise you on your netting problems and supply you with the finest grade netting available. For service, satisfaction, and quality try Pauls Netting on your next trip out.

PAULS FISH NET COMPANY

MAIN OFFICE: 357 WEST OHIO STREET, CHICAGO, ILL.

PACIFIC COAST DISTRIBUTORS:

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Pittsburg, Calif.

Joe Rappa
44 Municipal Wharf
Monterey, Calif.

Alfred Puusti & Co.
212 Taylor Ave.
Astoria, Oregon

Nordby Supply Co.
1300 Western Ave.
Seattle, Washington

Cable Address—"KINCAL"
VANCOUVER, CANADA

CALKINS
AND
BURKE
LIMITED

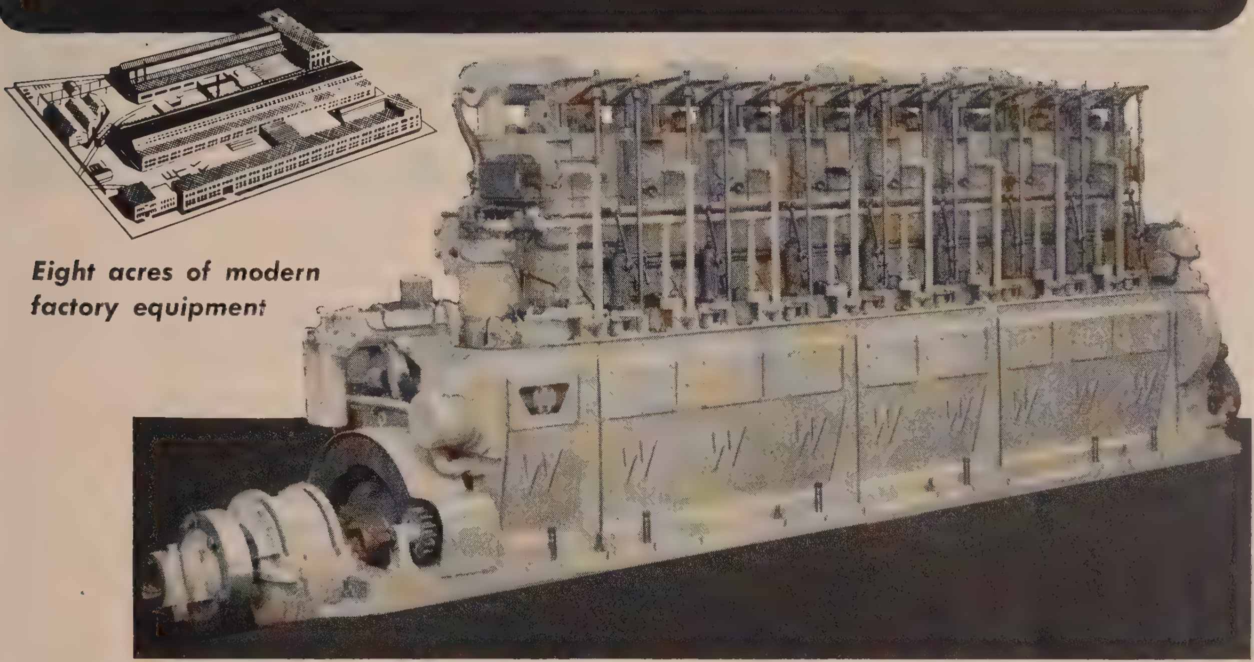
VANCOUVER, CANADA

EXPORTERS

CANNED SALMON
CANNED MILK
CANNED FRUITS
CANNED HERRING
FISH MEAL
DRY SALT HERRING

A. B. CALKINS C. A. CALKINS W. OWEN

CENTRALIZED RESPONSIBILITY
back of every Washington Diesel



Eight acres of modern factory equipment

Washington diesel engines are built, from pattern to final inspection, in one big plant, with centralized responsibility over every phase of manufacture. The plant has been in continuous operation since 1882. It covers eight acres with completely integrated facilities for design, engineering, pattern making, iron and steel castings, metallurgical testing, forging, welding, machining and fabricating.

Washington diesels are not only painstakingly crafted under one roof, but each marine installation is further safeguarded by expert engineering counsel, efficient service and the certainty of parts availability for years to come.

Proven dependability, plus the utmost assurance of responsibility on the part of the manufacturer, have led experienced vessel owners to choose Washington diesels again and again for over 27 years.

Ratings shown at right are for standard engines. Ratings for supercharged engines are available upon request.

CAPACITY RATINGS

MODEL NUMBER	B. H. P.*	NO. CYLS.	BORE AND STROKE	R. P. M.
3-125	90	3	9" x 12½"	400
4-125	120	4	9" x 12½"	400
5-125	150	5	9" x 12½"	400
6-125	200	6	9" x 12½"	450
8-125	270	8	9" x 12½"	450
3-13	120	3	10¼" x 13½"	360
4-13	160	4	10¼" x 13½"	360
6-13	260	6	10¼" x 13½"	390
8-13	350	8	10¼" x 13½"	390
4-15	200	4	11½" x 15"	327
6-15	330	6	11½" x 15"	360
8-15	440	8	11½" x 15"	360
6-160	400	6	12¾" x 16"	360
8-160	550	8	12¾" x 16"	360
6-18	500	6	14½" x 18"	300
8-18	665	8	14½" x 18"	300
6-20	640	6	16" x 20"	277
8-20	850	8	16" x 20"	277

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Since 1882

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CANNED Salmon

The Annette Islands Canning Co. takes particular pride in the care with which its fish are handled, the cleanliness and sanitation of its plant, and the precautions taken to guard the quality of its products.

Rich in flavor . . . rich in texture . . . and rich in the natural vitamins inherent in these ocean-caught fish, salmon packed in our cannery sells in the country's most discriminating canned food markets.

ANNETTE ISLANDS CANNING CO.

Cannery:
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—Packers—
Red, Cohoe, Pink
and Chum Salmon

Offices:
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4 WAYS
CONTINENTAL
Serves Pacific
Fish Packers

4 "TRIPLE-C" *advantages for Pacific Fish Packers*

1. FINEST CANS

Formed or semi-formed

SHRIMP
ALMON
OYSTERS
BONITO FISH
YELLOWTAIL

2.

HIGH SPEED EQUIPMENT

Units that Handle up to 325 Cans Per Minute

3.

TOP NOTCH SERVICE

Quickly—by Land Sea or Air

4.

EFFICIENT FRIENDLY UNDERSTANDING ORGANIZATION

At Your Service Always

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E. W. BECKETT
Acting Sales Manager
Seattle District

. . . with appreciation for the consideration with which the Pacific fish packing industry has favored us, and for the fine spirit of cooperation that has been extended to members of our organization, we take this occasion to thank one and all!

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CAN COMPANY, INC.

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Nordby Supplies Every Marine Need

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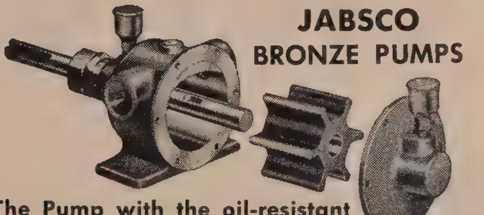

The Pump with the oil-resistant
Neoprene Rubber Impeller

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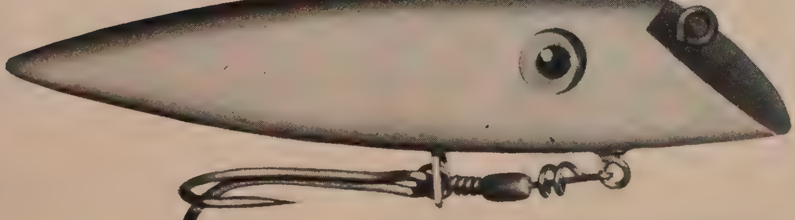
PAR MARINE
RADIO TELEPHONES



MARTIN TROLLING PLUGS
Proved Best by Commercial Trollers!

WALL EST. 1830 WALL ROPE **ROPE**

Manila, Bolt Purse
Pot Warp — regular
and hawser lay.

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SALMON

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IT'S NEW! 2-way RADIOTELEPHONE plus STANDARD BROADCAST RADIO

from the laboratories of

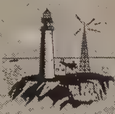
RADIOMARINE

pioneer and leader in electronic navigational aids and marine communications equipment.

4 CRYSTAL CONTROLLED COMMUNICATION CHANNELS

2—Ship-to-shore

1—Ship-to-ship



1—Ship-to-Coast Guard

RADIO BROADCAST RECEPTION

High-quality superheterodyne receiver, covers standard broadcast band of 540 to 1600 kc.

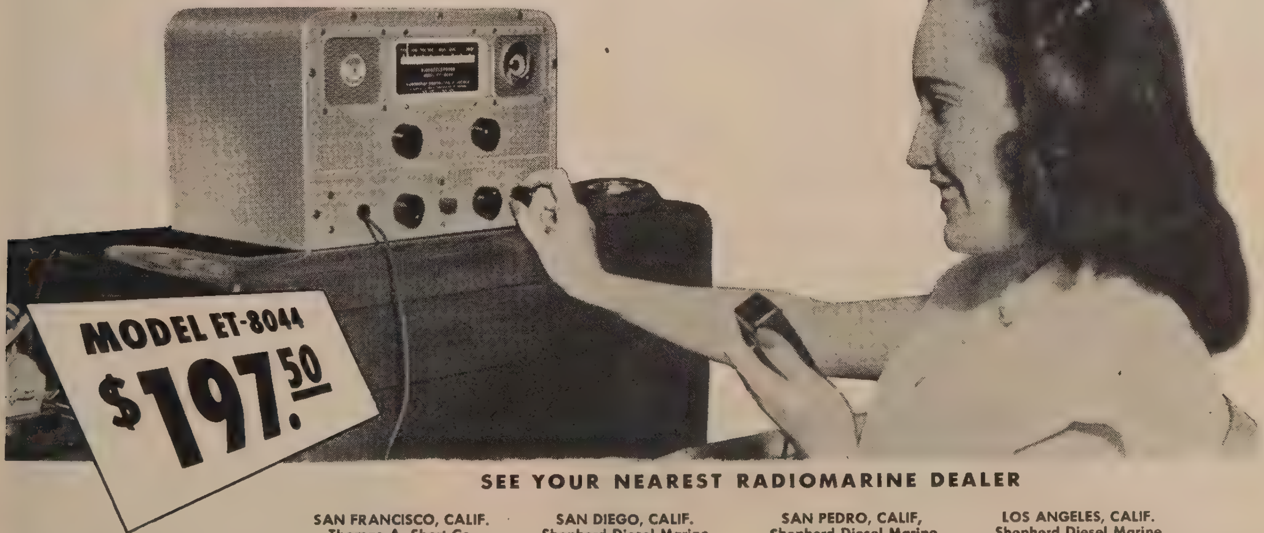
EASY TO INSTALL

Just connect Model ET-8044 to a 12-foot whip antenna, connect to ground and power supply—and you're ready for operation.

● Get *more fun* out of your boat...enjoy *extra safety and convenience* while cruising—with this new Radiomarine combination radiotelephone and radio receiver. Talk to other boats . . . call local harbor stations which connect with any telephone in the U. S. A. . . . listen to your favorite radio programs.

Radiomarine put every bit of its 28 years of experience in building communications equipment for all types of vessels from luxury liners to pleasure craft, into this sturdy, self-contained, compact Model *ET-8044.* Designed for easy mounting on a table or bulkhead. Size 9" high, 9" deep, 13" wide. Weight 20 lbs.

This is the type of 2-way radiotelephone communication and radio entertainment you have wanted aboard your boat. It is economical to use. Operates from 6-volt or 12-volt D.C. power supply. See it at your nearest Radiomarine dealer's today . . . or write for illustrated literature.



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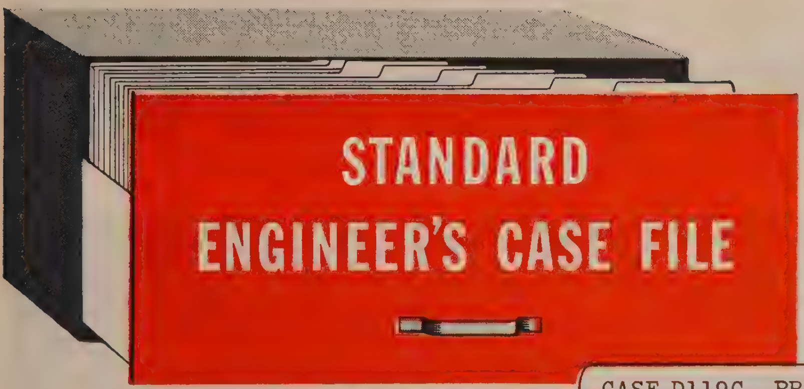
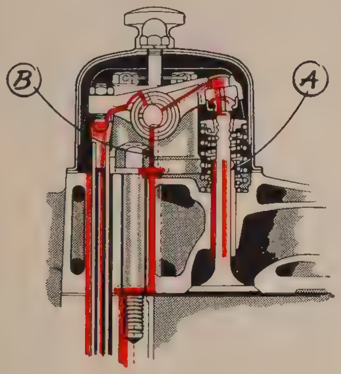
"From Alaska to California"



CASE D119C--PROVIDING GOOD VALVE ACTION IN DIESEL ENGINES.



DIESEL ENGINE VALVE ASSEMBLY

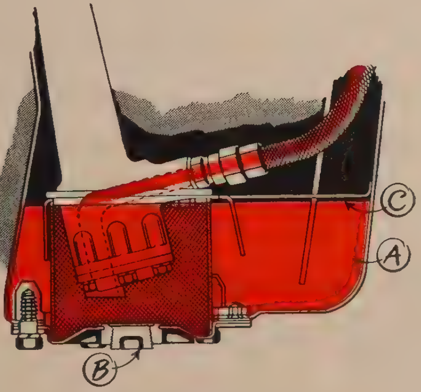
When Diesel engines, operating in tough heavy-duty service, were lubricated with compounded RPM DELO Diesel Engine Lubricating Oil, valve stems and guides did not gum up. They received thorough lubrication at all times and wear was negligible. RPM DELO Oil is recommended for all types of Diesels. Comes in several viscosity grades to meet all conditions.

A. Specially selected oxidation-resistant base stocks and special compounds prevent formation of gum and lacquer . . . oil film adheres to hot or cold metal surfaces.

B. Detergent compound keeps oil passages clean and open . . . and allows free flow of adequate supply of lubricant to wear points.

RPM DELO Diesel Engine Lubricating Oil is non-corrosive to all bearing metals. This quality and high stability assure sound bearings in Diesels for long service periods.

CASE D119D--KEEPING PARTS CLEAN AND REMOVING CONTAMINANTS FROM DIESEL ENGINES.



DIESEL ENGINE CRANKCASE

Cylinder walls, pistons, bearings and other parts of Diesel engines in heavy-duty service remained free of lacquer, and all contaminants flowed out with drainings when RPM DELO Diesel Engine Lubricating Oil was used.

A. A special compound in RPM DELO Oil loosens and removes lacquer and other deposits from parts and oil passages . . . and they stay harmlessly dispersed in the oil.

B. The finely dispersed contaminants, including condensate and dust, flow out freely when crankcases are drained.

C. Another compound in RPM DELO Oil prevents foaming —allows accurate measurement of oil levels and delivery of sufficient lubricant by oil pumps.

The engine-cleaning qualities of RPM DELO Oil help reduce wear on parts and prolong greatly the operating periods between engine overhauls.

STANDARD TECHNICAL SERVICE will make your maintenance job easier. If you have a lubrication or fuel problem, your Standard Fuel and Lubricant Engineer or Representative will gladly give you expert help; or write Standard of California, 225 Bush Street, San Francisco 20, California.

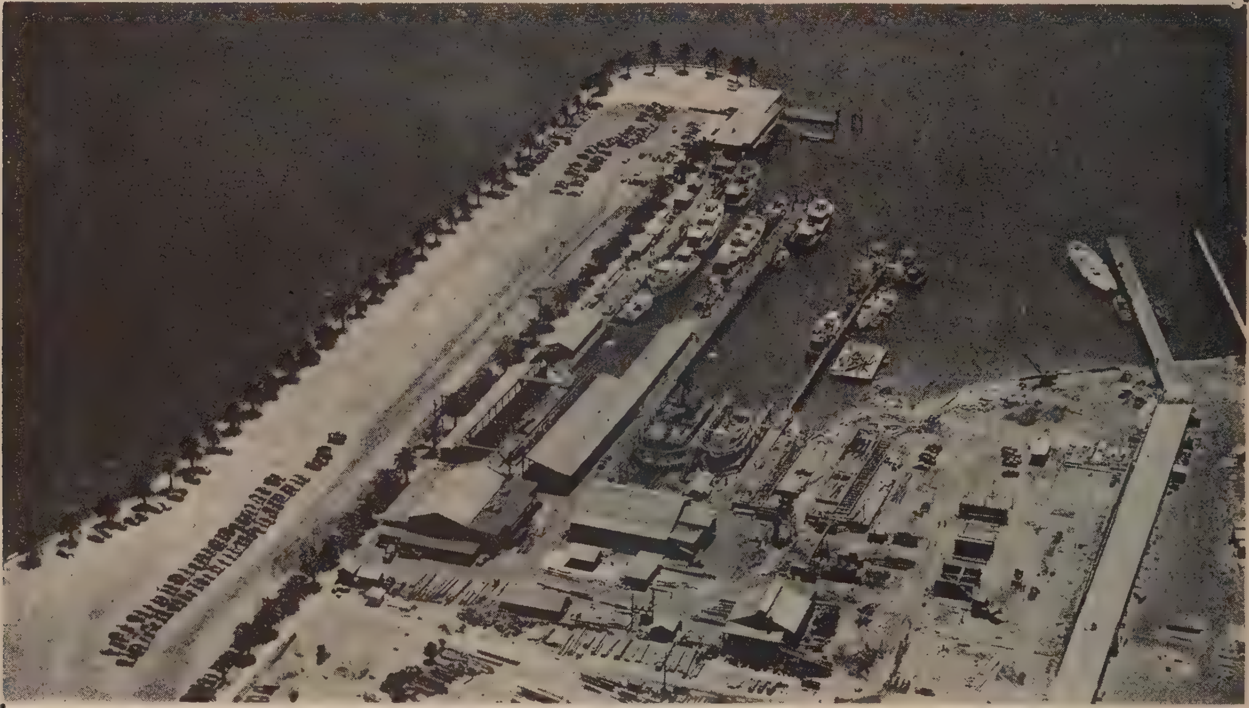
DIESEL ENGINE
RPM
DELO
LUBRICATING OIL

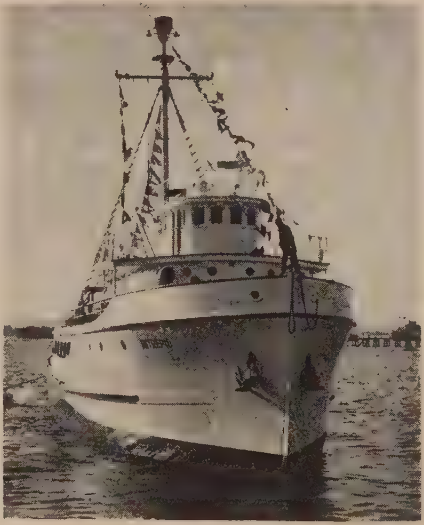
Trademarks Reg.
U. S. Pat. Office

STANDARD OF CALIFORNIA

LYNCH SHIPBUILDING CO.

AIR VIEW OF ONE OF THE COAST'S LARGEST YARDS





This Yard Is Completely Equipped With Adequate Docking Space, Modern Marine Railways, Ways, Machine Shops, Foundry, F.T.C., to Undertake Repairs, Refrigeration, Conversion on Modernizing of Any Size Fishing Vessel.

"Intrepid," 128′ converted YP for Dr. George Budd & Associates

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ENTERPRISE MARINE DIESELS

SAN DIEGO 12, CALIFORNIA

Foot of 28th St.

A Seafaring Organization

BORN ON THE SEACOAST, and having first tasted salt water on the shores of its home city, Fireman's Fund Insurance Company has followed the sea since the days of iron men and wooden ships. The company was founded at San Francisco in 1863 and, since the glorious days of the clipper ship, the city by the Golden Gate has become a great seaport, and Fireman's Fund has grown until today it ranks first among all American companies writing marine insurance.

Although its operations are world-wide, Fireman's Fund has always remained a *home company* to the Pacific Coast, where its underwriting operations, hull and cargo, and its claim settling facilities reach from the northern extremes of Alaska to the southern boundaries of Chile.

Men of the sea, whether they sail purse seiners, tuna clippers, cargo carriers, or passenger ships like to do business with men who know and understand the perils of the sea—they like to do business with Fireman's Fund.

Ocean and Coastwise ***Hulls and Cargoes***

Marine Department

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Tops in Highest Quality

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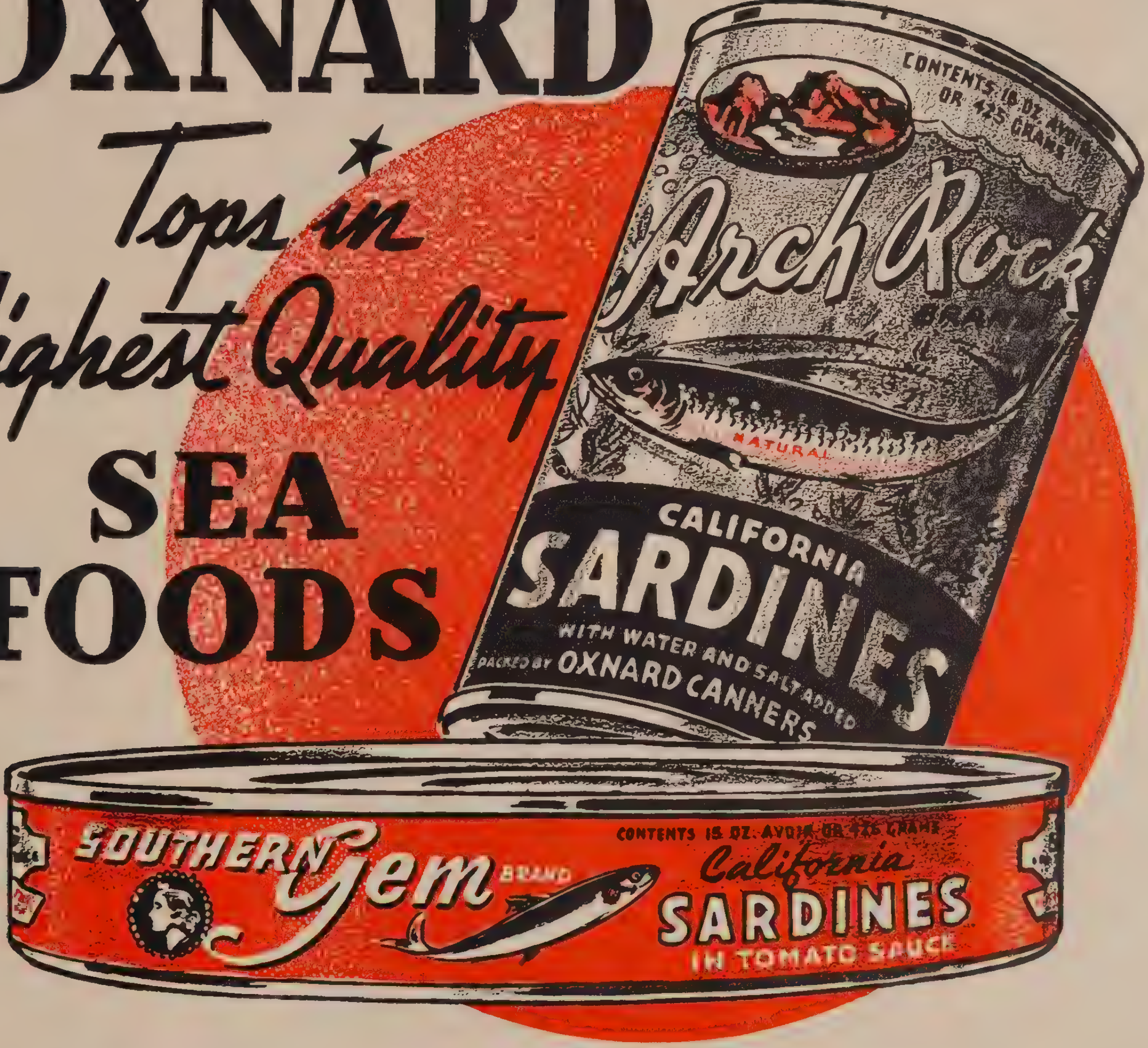
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FISH FREEZING

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(Ice Making Capacity Now Being Doubled)
BAIT and GEAR
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Closest to the Fish!

BETHLEHEM
WIRE ROPE

**TRIAL
AND
ERROR
COSTS
$ $ $**

Let a Fishing Rope Specialist Advise You

Maybe you are one of those fishermen who have experimented with a lot of different types of rope and who know through trial and error just what grade, size and construction is best for your job. If you have followed this method you realize how costly it can be.

For dollar-wise fishermen, the better and far less costly way is to get the advice of a Bethlehem wire-rope dealer who makes a specialty of this business. Bethlehem dealers have had long experience in selecting ropes and advising fishermen on what type to use for a given set of conditions. They will gladly discuss your rope problems and do their level best to help you save money.

One of the top-quality ropes they sell is bethanized, the rope with the smooth, heavy zinc coating uniformly applied by Bethlehem's patented process. Bethanizing provides greater protection against corrosion. Ask your dealer to show you the bethanized rope in the correct size, grade, and construction for your job.

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WIRE ROPE
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BETHLEHEM PACIFIC COAST STEEL CORPORATION

Sales Offices: San Francisco, Los Angeles, Portland, Seattle, Honolulu

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VELERA
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that builds
repeat sales!

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The CORONADO, a 103 foot tuna clipper of the Pacific fleet, is powered by a 12x15 Superior Engine.

A MODEL 60 SUPERIOR ENGINE POWERS

The Coronado

You, too, will like the long life of a SUPERIOR DIESEL

Efficient pressure lubrication is one of the many reasons why the Coronado's owners will get long, economical life from their Superior. Force feed lubrication, in combination with oil cooled pistons, results in reduced temperatures at piston crowns and rings. Large, properly directed oil flow means less friction . . . reduced wear . . . cooler running bearings . . . fewer overhaul jobs . . . prolonged, trouble-free engine life.

When you build or re-power, insist on a Superior—and be sure of *Superior* features: Conservative Ratings • Fuel Economy • Precision Bearings • Heavy Rigid Crankshafts • Strong Bases and Cylinder Blocks • Proved Roller Chain Camshaft Drive • Oil Cooled Pistons. One of our field engineers will be glad to show you the economics of these features. Write for your free copy of our 28-page booklet, *Superior Marine Diesel Engines.*

THE NATIONAL SUPPLY COMPANY
SUPERIOR ENGINE DIVISION
Plant and Generel Sales Office: Springfield, Ohio

THE NATIONAL NSCO SUPPLY COMPANY

Superior DIESEL

2 SUPER BRANDS

SUNSET BRAND
TUNA
IN COTTONSEED OIL
SALT ADDED
Universally
BlueSea BRAND
FANCY SOLID PACK LIGHT MEAT
TUNA
Popular

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"BLUE SEA" and "SUNSET" TUNA

The brand names of "Blue Sea" and "Sunset" tuna are a pledge of uniform high quality supported by more than 50 years' experience in the canning of California fishery products.

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"BLUE SEA" and "SUNSET" SARDINES and MACKEREL

The standards and principles of 30 years, plus our experienced staff and our efficient, up-to-date plant and equipment, have earned similar distinction and popularity for canned sardines and mackerel packed under these labels.

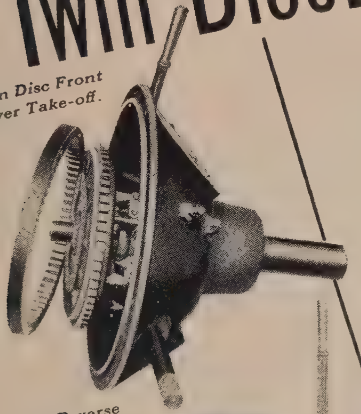
Every case of fish packed by the Southern California Fish Corporation is designed to win new customers and to keep the business of old friends. We will welcome an opportunity to serve your requirements.

SOUTHERN CALIFORNIA FISH CORPORATION

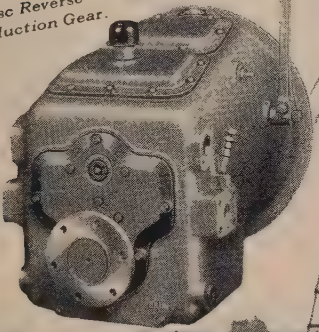
Established 1892

TERMINAL ISLAND
LOS ANGELES HARBOR,
CALIFORNIA

Twin Disc... *Fore and Aft*



Twin Disc Front Power Take-off.



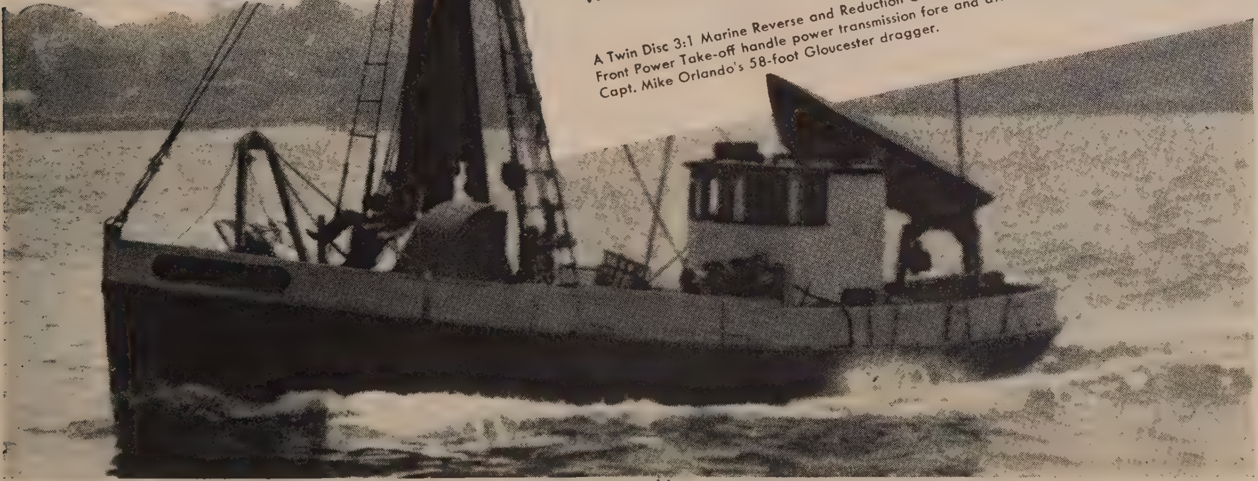
Twin Disc Reverse and Reduction Gear.

Fore and aft . . . wherever you need a reliable power transmission unit . . . there's a Twin Disc product to handle the job—Marine Reverse and Reduction Gears for easy shifting and instant response . . . Front Power Take-offs to transmit power to winches, windlasses, gurdies, and other auxiliary equipment.

Twin Disc Reverse and Reduction Gears are suitable for application to marine engines developing from 20 to 325 hp . . . engine speeds from 800 to 1800 rpm. Twin Disc Marine Gears are designed to transmit full power in driving either forward or reverse through the use of heavy-duty duplex disc clutches . . . to provide improved performance with minimum maintenance and longer-wear-life.

Twin Disc Front Power Take-offs are furnished complete with shaft, bearings and rigid cast-iron housing in sizes from 6.5″ to 14″ single-plate and from 11.5″ to 14″ double-plate. Housing sizes are from SAE No. 1 to SAE No. 6. Capacities range up to 140 hp.

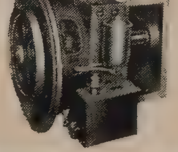
For complete information write the Twin Disc Clutch Company for Marine Bulletin 142 or Power Take-off Bulletin 129-B. TWIN DISC CLUTCH COMPANY, Racine, Wisconsin (Hydraulic Division, Rockford, Illinois).



A Twin Disc 3:1 Marine Reverse and Reduction Gear and a Twin Disc Front Power Take-off handle power transmission fore and aft on the Josie II, Capt. Mike Orlando's 58-foot Gloucester dragger.

Heavy Duty Clutch

Hydraulic Torque Converter



Hydraulic Coupling

TWIN DISC
MARINE GEARS
REG. U. S. PAT. OFF.

Tractor Clutch

Machine Tool Clutch

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CHIGNIK FISHERIES COMPANY

1826 Exchange Building
SEATTLE 4, WASHINGTON

Packers of

ALASKA CANNED SALMON

CANNERY: *Chignik, Alaska*

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cut shipping and storage costs for FISH and SEAFOODS

Los Angeles Fish and Oyster Firm Finds Super-Ice Lasts Over 2 Days

Reporting on amazing new Super-Ice, Central Fish and Oyster Company of Los Angeles writes:

"Church Container No. 158 was precooled at 38 degrees above zero before starting test, and results were as follows: July 24, 3:15 P.M.—300 lb. case of Scallops and six blocks of Super-Ice were placed in container and set in warehouse at regular weather temperature.

July 25, 3:45 P.M. (after 24½ hours), temperature 30 degrees
July 26, 11:15 A.M. (after 44 hours), temperature 32 degrees

Test was ended due to weekend closing, but we inspected scallops and found them in perfect frozen condition. Blocks of Super-Ice had enough coldness and moisture to hold container at 32 degrees for 8-10 hours more.

Weather temperatures during test were: daytime, 89 to 96 degrees; night, 60 to 70 degrees."

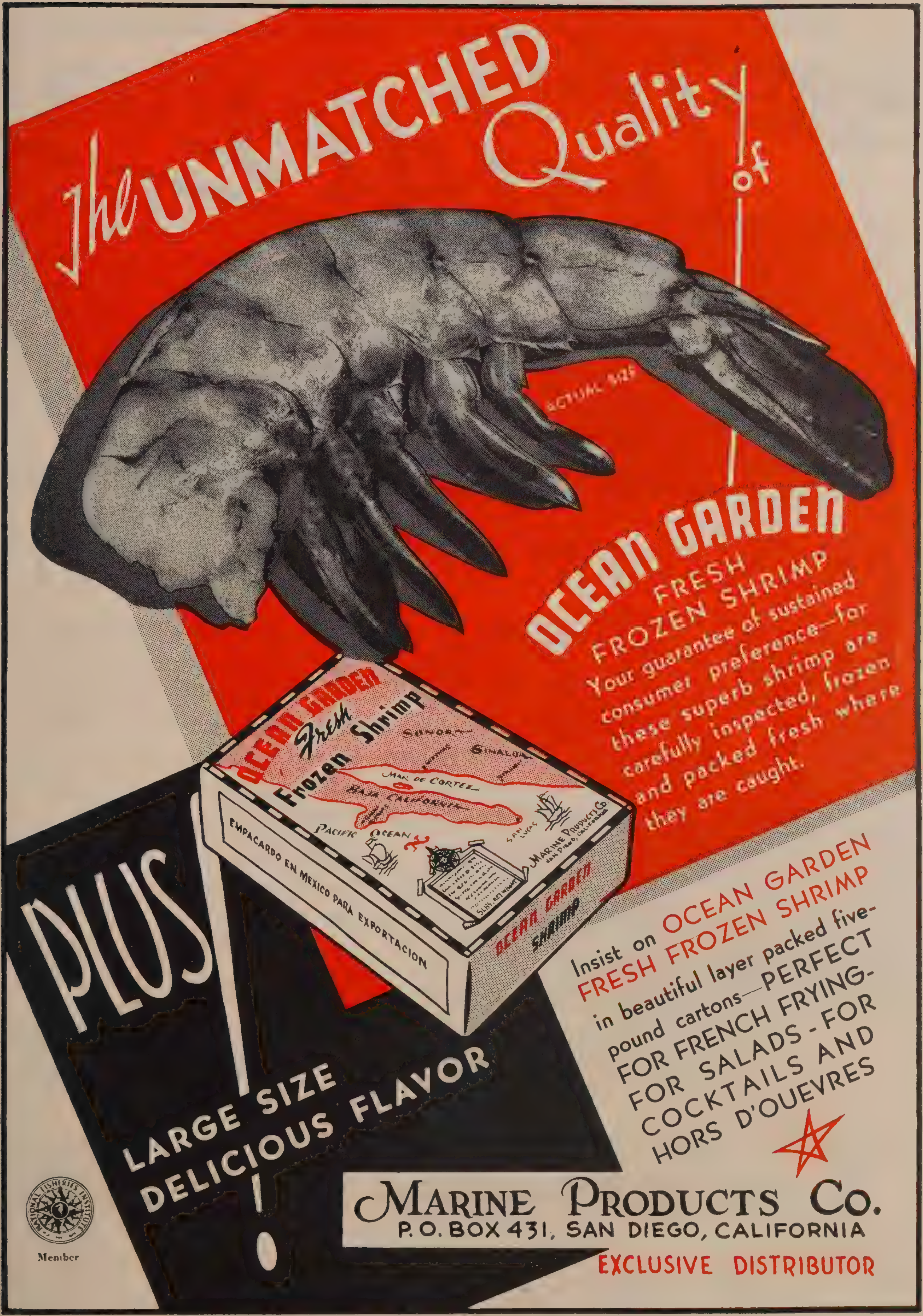
WHAT IS SUPER-ICE?

Super-Ice is a light-weight, packaged wood-fibre brick treated with chemicals and pre-frozen. Gives off no gas, fumes or water . . . cannot over-freeze. Economical, gives long-lasting cold. Can be dipped in water, re-frozen and used over and over again. Super-Ice is compact, can be handled with bare hands. Accepted by airlines.

WHAT IS YOUR REFRIGERATION PROBLEM?

To learn in detail how Super-Ice can help you slash storage and shipping costs for crabs, oysters and all commercial fish, write to Super-Ice, Inc., 334 Magnolia Street, Oakland 7, California. We'll gladly answer your questions regarding your particular refrigeration problems.

SUPER-ICE, INC.
334 MAGNOLIA ST., OAKLAND 7, CALIF.


ACTUAL SIZE
OCEAN GARDEN
Fresh
Frozen Shrimp
SONORA
SINALOA
MAR DE CORTEZ
BAJA CALIFORNIA
PACIFIC OCEAN
SAN LUCAS
MARINE PRODUCTS CO.
SAN DIEGO, CALIFORNIA
EMPACARDO EN MEXICO PARA EXPORTACION
5 LBS. NET WEIGHT
OCEAN GARDEN
SHRIMP

The UNMATCHED Quality of

OCEAN GARDEN

FRESH
FROZEN SHRIMP

Your guarantee of sustained consumer preference—for these superb shrimp are carefully inspected, frozen and packed fresh where they are caught.

PLUS!

LARGE SIZE
DELICIOUS FLAVOR

Insist on OCEAN GARDEN FRESH FROZEN SHRIMP in beautiful layer packed five-pound cartons—PERFECT FOR FRENCH FRYING-FOR SALADS - FOR COCKTAILS AND HORS D'OUEVRES

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Haines

for Shell Fish

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Since 1892

LARGEST SHIPPERS ON PACIFIC COAST

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DEEP SEA CRABS	DUNGENESS CRABMEAT
SOUTHERN SHRIMPMEAT	KING CRABMEAT

CLAMS ★ PRAWNS ★ LOBSTERS

BRANDS:

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OYSTERS — HAINES
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ALBACORE
WHITE MEAT
TUNA

HAINES OYSTER COMPANY

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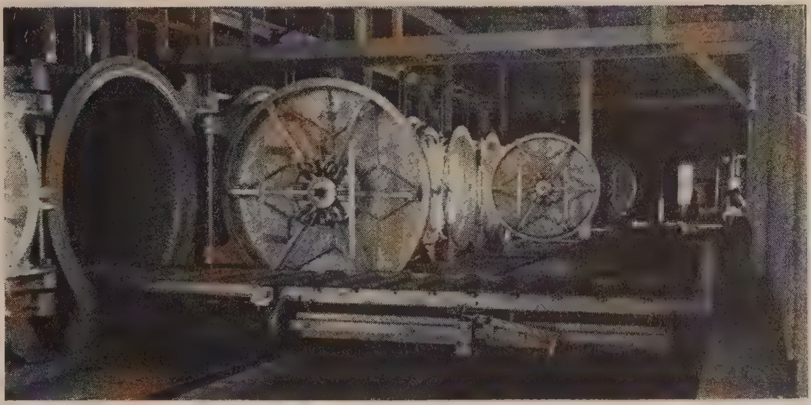
PLANTS at: Bay Center, Hoquiam, Shelton, Blyn

MATHEWS CONVEYERS

* * *

SALMON canners are finding that Mathews Roller Systems are replacing the old style retort cars in modern canneries with a great deal of success. Economy and ease of handling are only two of the advantages of Mathews Roller Systems.



TRANSFER CARS FEEDING RETORTS

* * *

MATHEWS Case Handling Systems offer the up-to-date salmon packer another chance to save time and effort.

We have now established a factory on the West Coast in order to more efficiently serve our many customers in the fisheries industry. Call on us, and we can show you where a Mathews Conveyer System will save you money.

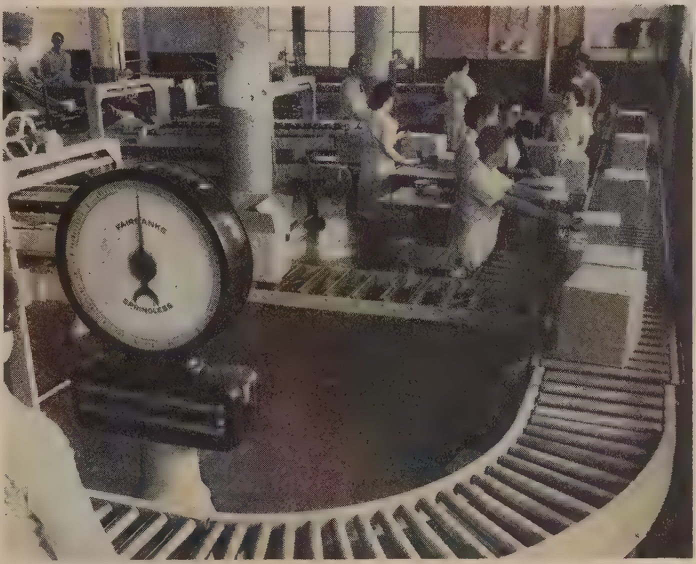


ILLUSTRATION ABOVE SHOWS MATHEWS CASE HANDLING CONVEYORS

MATHEWS CONVEYER COMPANY WEST COAST

MAIN OFFICE & FACTORY: SAN CARLOS, CALIF.

BRANCH OFFICES

SEATTLE 1
2615 Western Ave.
SEneca 5718

PORTLAND
1128 S. W. Market

LOS ANGELES
132 North Western Ave.

THINGS

the light that marks the
way to safe harbor...

FISHERMEN TRUST

. . . the net that boats good catches

For generations, men who fish America's seas and inland waters have trusted Gold Medal Netting.

For salmon they have long used Barbour's Double-Knot Linen Gill Netting, the *only* netting made on the famous Single-thread Netting Machine. Every thread is tough—every mesh is even—every knot is *double* strong—every net is factory tested before you buy it.

And for Purse Seine, Trap or Trawl, Gold Medal *cotton* netting is successful fishermen's favorite.

Ask your supplier, ask other net-wise friends—they'll all tell you *Gold Medal makes fine netting.*

GOLD MEDAL SEINE TWINE—For hand-knitting, hanging and mending, get the same high-quality twine that Gold Medal Netting is knit from. Ask for and be sure you get Gold Medal.

Other Netting Products: AN&T COY LINEN NETTING • GOLD MEDAL SEA ISLAND GILL NETTING • PLYMOUTH ROPE • A COMPLETE LINE OF NETTING ACCESSORIES

GOLD MEDAL NETTING means controlled production in our own plants, from the bale of cotton to the finished netting. This is your assurance of dependable quality.

VICTORIA
REGINA
TERNATIONAL
HIBITION
1851

Gold Medal Netting

THE LINEN THREAD CO., INC., 116 New Montgomery St., San Francisco 5, Calif.

(Successors to American Net and Twine Company)

Pacific Coast Distributors: Pacific Marine Supply Co., Seattle • Oregon Marine Supply Co., Portland and Astoria • Cincotta Bros., San Francisco and Monterey • Marine Hardware Co., San Pedro and Terminal Island • Nuttal-Styris Co., San Diego • Cia Exportada de la Costa S. A., Guaymas, Sonora, Mexico • Canadian Representative: Western Leckie Limited, Vancouver, B. C.

MAKERS OF FINE NETTING FOR 107 YEARS

MICHIGAN
MACHINED-PITCH
PROPELLERS

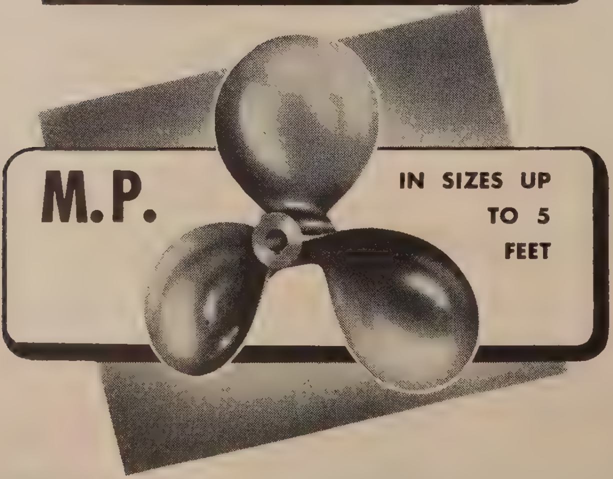
Increase net earnings

If the Old Man of the Sea is taking too big a cut of your net earnings and it's costing you too many "fins" to catch fish, remember that the performance of many a good engine has been scuttled by a poor wheel.

Michigan Machined-Pitch propellers on the other hand convert all your horse power into miles made good. At the same time they take the lead out of your log and trim up your balance sheet.

Since all Michigan propellers are built of Michalloy metal that resists corrosion and hard knocks, you'll find that occasions of pulling out for wheel checking will be few and far between.

REDUCE WEAR


M.P.
IN SIZES UP TO 5 FEET

MICHIGAN WHEEL CO., Grand Rapids 3, Mich.

Trim Your Lines With These Best of Hooks Skipper!

These fine Norwegian hooks have the sharpness to penetrate the toughest mouths and the strength to hold almost any size of fish. Ask your fishing supplies dealer to show you.

MUSTAD
Key Brand FISH HOOKS

See the many patterns and sizes and choose the hooks that best suit your requirements.

O. Mustad & Son.
(Est. 1832)
Oslo Norway

SALES AGENTS
H. L. BOWLDS & SON, 354 So. Spring St., Los Angeles, Cal
REIDAR GJOLME & SONS, 207 Vance Bldg., Seattle 1, Wash.
EDWARD LIPSETT, Ltd., Vancouver, Victoria, Prince Rupert.

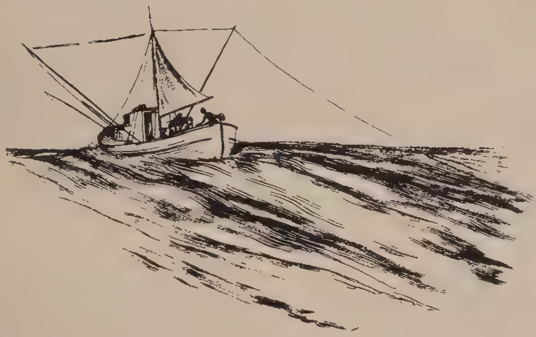
FINANCIAL SERVICE FOR THE FISHING INDUSTRY

The banking needs of firms in the fishing and allied industries are well known to this bank. We welcome your inquiries and will gladly discuss with you the adapting of our services to your needs.

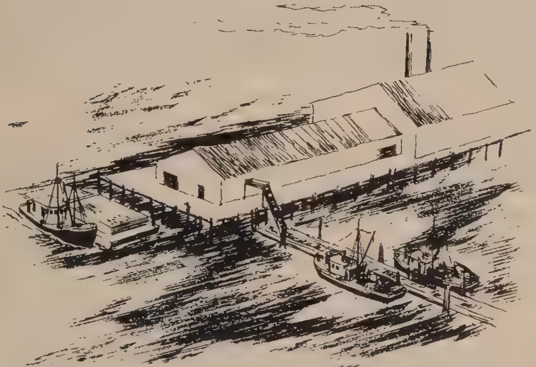
PNB

The
PACIFIC NATIONAL BANK OF SEATTLE
"The Bank of Business"
Second at Marion • Seattle 11
Member Federal Deposit Insurance Corporation

For top quality
MARINE AND FISHING
Supplies

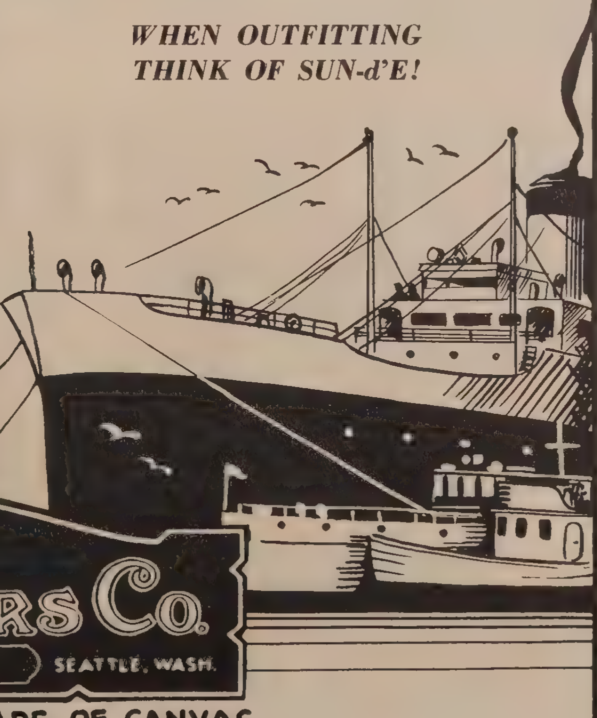


If You're a
Commercial Fisherman
— Or a Canneryman
— Or a Yachtsman



You'll know that quality is in a class by itself. And those of you who have dealt with us know that we pride ourselves on offering quality of merchandise and quality of service, with our aim to please you.

WHEN OUTFITTING
THINK OF SUN-d'E!



LOOK TO—

MARINE SUPPLIES
SUNDE & d'EVERS CO.
COLMAN DOCK — ESTABLISHED 1892 — SEATTLE, WASH.

WE MANUFACTURE ANYTHING MADE OF CANVAS

HARLINGEN
PORTLAND
SACRAMENTO
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QUALITY INSURANCE

ROCHESTER, N.Y.

Stecher-Traung's two big plants—having a combined floor space of 371,000 square feet—are modern, complete, self-contained and equipped with the largest battery of giant 4-color offset presses in the country. Every facility for the production of high quality lithography is provided. We grind chemically tested, fade-proof dry colors to produce our own inks and apply our own special coatings to paper stock to assure uniformity and best possible reproduction. Skilled artists, photographers and craftsmen give expert and detailed attention to every job. Your label will have quality insurance!

STECHER-TRAUNG
LITHOGRAPH CORPORATION
SAN FRANCISCO, CALIFORNIA ROCHESTER, NEW YORK

All the salt you need...when you want it...in Seattle

LESLIE SALT
A PROVED PRODUCT FOR EVERY FISHERY USE!

LESLIE'S special grades of salt for the fishing industry.

Kiln Dried Canners Ground
Kiln Dried Mild Cure
Kiln Dried Special Herring

LESLIE SALT CO.
Lenora Dock, Pier 65, Seattle
Executive Offices, 310 Sansome Street
San Francisco
In Canada, Vancouver Salt Co., Ltd.
Vancouver, B. C.

100 POUNDS
NET WEIGHT
LESLIE
K.D.CANNERS
GROUND
SALT
LESLIE SALT CO.
SAN FRANCISCO
CALIFORNIA
MADE IN U.S.A.

LIBBY NO. 3
LIBBY NO. 2

Guarantee of a Man-Size Annual Catch!

Libby is proud of its fishing fleet, company owned as well as independent, and of the men who man it. Their skill and loyal support each year enables us to maintain full production without sacrificing quality.

Libby's
RED ALASKA SOCKEYE SALMON
Libby's
RED ALASKA SOCKEYE SALMON
Libby's
RED ALASKA SOCKEYE SALMON

Fresh from the water and quick to the cannery. Careful handling is the watchword, whether Libby's salmon is taken by gillneters, purse seiners or traps.

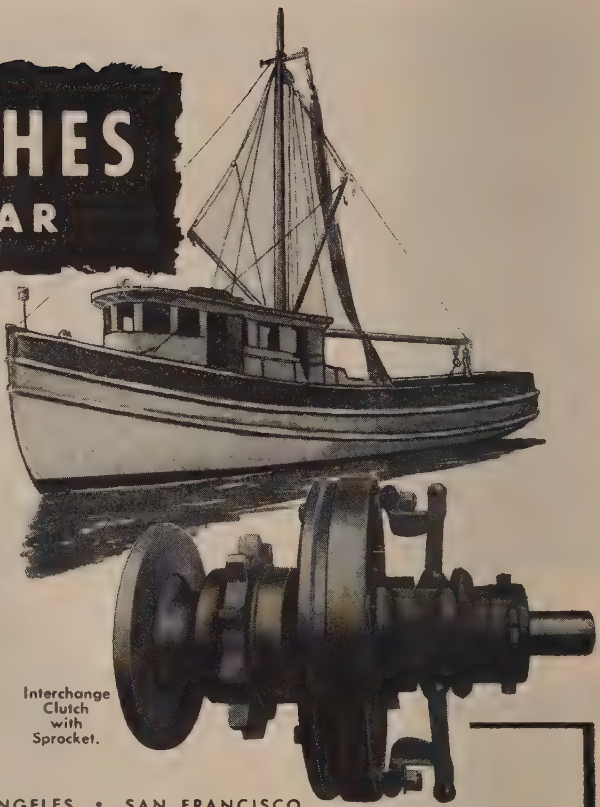
LIBBY, McNEILL & LIBBY

In Salmon, too . . .

LOOK TO LIBBY'S FOR PERFECTION

KINNEY CLUTCHES
FOR TRAWLING GEAR

Designed to stand up in trawling service, Kinney Interchange Clutches handle heavy overloads driving winches, fish hoists, anchor windlasses and auxiliary equipment. A light pressure on the shift lever operates the clutch through a powerful toggle mechanism: the clutch can be instantly engaged or disengaged whether or not the engine is running, and with or without load on the winch. Power is transmitted directly through flat discs — not through bolts or engaging mechanism. Capacity 2 to 40 HP per 100 R.P.M., speeds up to 800 R.P.M. Simple, rugged construction assures years of trouble-free service. There's a Kinney Clutch for every drive on your boat. Write for information.

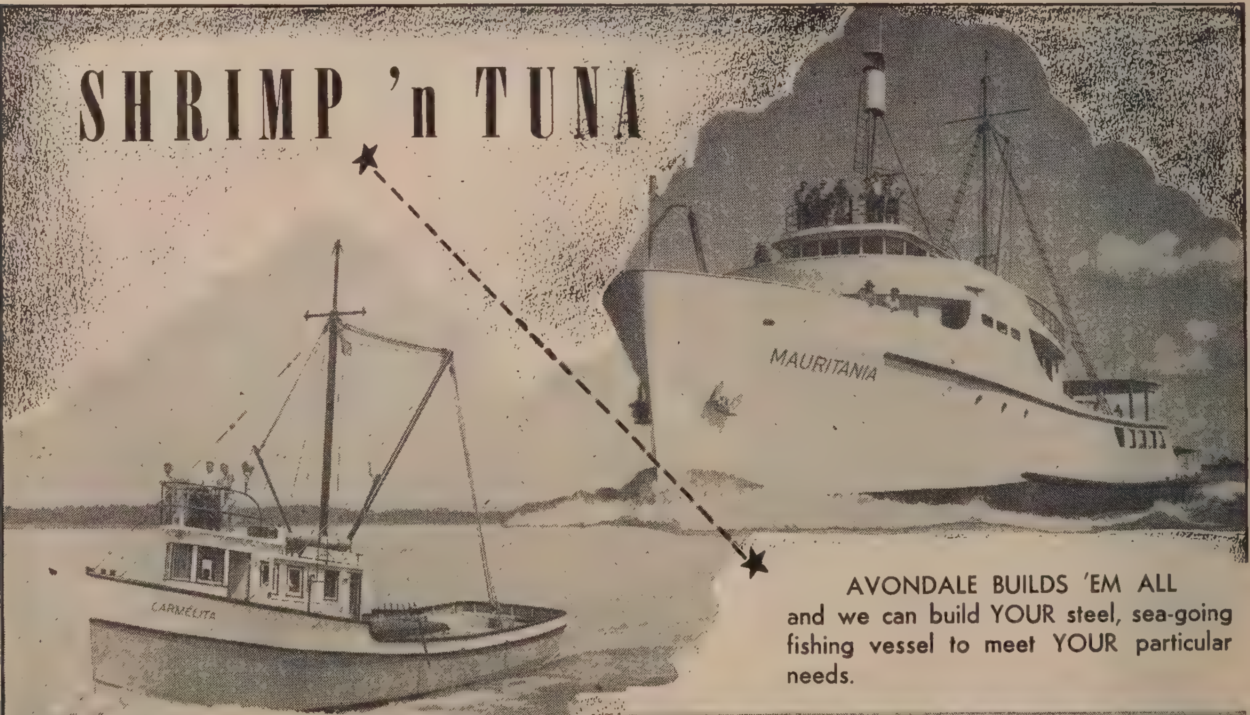


Interchange Clutch with Sprocket.

KINNEY MANUFACTURING COMPANY
3524 WASHINGTON STREET, BOSTON 30, MASS.
NEW YORK • CHICAGO • PHILADELPHIA • LOS ANGELES • SAN FRANCISCO

We also manufacture Vacuum Pumps, Liquid Pumps and Bituminous Distributors

SHRIMP 'n TUNA



AVONDALE BUILDS 'EM ALL
and we can build YOUR steel, sea-going fishing vessel to meet YOUR particular needs.

STEEL
AVONDALE MARINE WAYS, INC.

RIVER FRONT, NEW ORLEANS DISTRICT
MAILING ADDRESS: WESTWEGO LOUISIANA

MAIN PLANT: AVONDALE, LA.
QUICK REPAIR PLANT — HARVEY, LA.

Pacific Coast Representative: Cecil W. Drake,
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Franklin 9-7421

ANCHORS

- More holding power for its size and weight—easier to handle.
- Digs in fast . . . buries itself completely.
- Non-fouling — no parts projecting above ground.
- Stows flat or in hawse pipes.

GOLD MEDAL
VICTORIA REGINA
INTERNATIONAL FISHERIES EXHIBITION 1883

"The Netting of Quality"

BARBOUR PRODUCTS

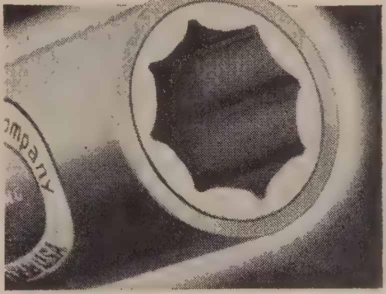
Purse seining for sardines, mackerel or tuna calls for proven dependability. "Gold Medal" netting has all the extra strength and long wearing qualities for this work.

The Linen Thread Co., Inc.

GOODRICH CUTLESS BEARINGS

Longer Life
Less Vibration
Greater Speed
High Efficiency

B. F. Goodrich Co., Akron, Ohio



PLYMOUTH TRADE MARK 1824

Fish with PLYMOUTH Rope

Wherever rope "Takes a Beating" Plymouth comes through staunchly.

Purse seiners more than any others know the value of durable, dependable, economical rope gear.

Plymouth Cordage Co., Plymouth, Mass.

JOHNSON'S BEST SEATTLE, WASH.

JOHNSON'S "BEST" OILSKINS

Eighty-five per cent of Pacific Coast fishermen demand Johnson's "Best" Oilskins. Made from heavier fabrics, large and roomy sizes, heavier coatings of oil, they wear longer, fit better, and keep you dry!

Geo. A. Johnson Co.,
SEATTLE

American Marine Paint Co.

TRIPLE C CAPE COD
COPPER COMPOUND

For Wood Hulls

Agents

U. S. HYDROGRAPHIC OFFICE
U.S. COAST & GEODETIC SURVEY

CHARTS

BAROMETERS — CLOCKS
COAST PILOTS SAILING DIRECTIONS

FISHERMEN'S SUPPLIES

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Life Preservers
Anchors, Chains, Oars
Fire Fighting Equipment
Pipe, Valves and Fittings
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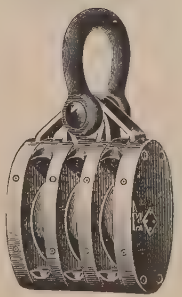
Boston & Lockport Blocks
Wilcox-Crittenden Hardware
Perkins Marine Lamps



Keep 'Em Sailing!

MARINE HARDWARE CO.

With three well-stocked stores conveniently located about the Harbor, we are in a position to serve fishermen and cannerymen well.

MAIN OFFICE:
509 Beacon St., San Pedro, Calif.
Phone: TE. 2-7505

BRANCH OFFICES:
304 Sardine St.
Terminal Island, Calif.
Phone: TE. 2-0371

Berth 73, Fishermen's
Co-operative Assn. Bldg.
San Pedro, Calif.
Phone: TE. 2-7505

WIRE ROPE that's a **MASTER MARINER**

THROUGHOUT ALL INDUSTRY, wherever there's hauling, hoisting and staying to be done, Roebling Wire Rope is a first choice of engineers and operators. Roebling has developed a wide variety of types and sizes of wire rope to meet every purpose dependably and at low over-all cost.

Steel used in Roebling Wire Rope for Standing Rigging and Trawler Lines is made in Roebling's own steel mill for topmost strength, toughness and resistance to fatigue. Every step in drawing the wire and stranding is scientifically controlled to assure a quality product for the fishing fleets.

Rig with Roebling Wire Rope for efficiency and economy. A Roebling Field Man will be glad to help you choose the *right* ropes for every service. Write or call him at your nearest Roebling branch office.

ROEBLING
A CENTURY OF CONFIDENCE

JOHN A. ROEBLING'S SONS COMPANY
OF CALIFORNIA
San Francisco • Los Angeles • Seattle • Portland

The Most Profitable 'Hauls' Start at LIPSETT'S . . .

MANUFACTURERS
and
DISTRIBUTORS

•

Established 50 Years

•

For as long as organized commercial fishing has been in existence on the B. C. coast LIPSETT has supplied the dependable gear that makes the big "hauls" possible.

•

EDWARD LIPSETT LTD.

VANCOUVER VICTORIA PRINCE RUPERT

ADAMS Quality NETTING

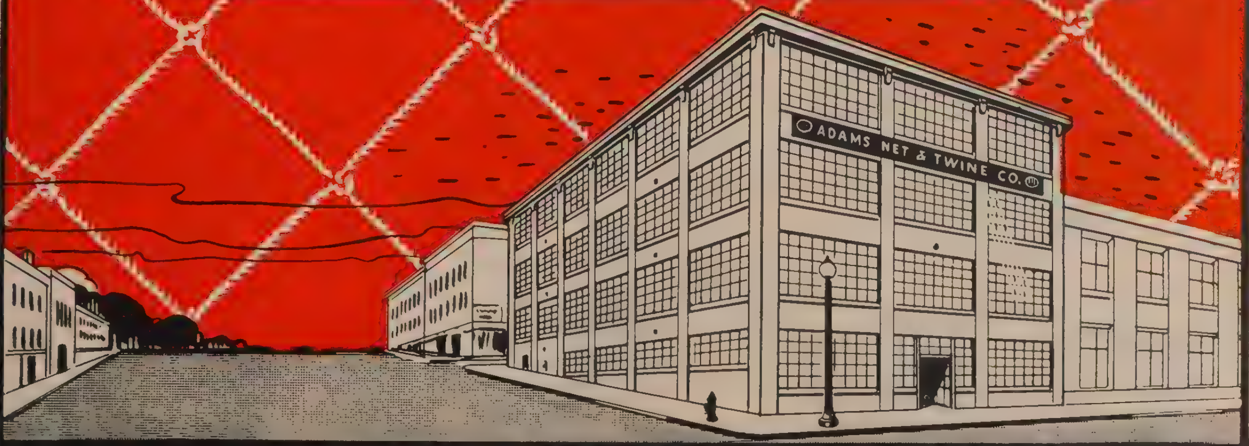
The three factors combined in Adams Netting form the basis of everything that means quality, service and value in fish netting.

Twine: The very finest quality cotton used in its construction . . . long fine fibres, scientifically spun to assure full strength of every fibre.

Mesh: Made to your specific instructions—thoroughly checked to meet your exact specifications.

Knots: Accurately tied during weaving process to guard against slipping or breaking mesh.

You can't go wrong when you hoist Adams Netting aboard because experienced fishermen know from past performances they receive dollar for dollar value from every pound of Adams Netting they buy. Once you try Adams Netting you will be convinced.


ADAMS NET & TWINE CO.

ADAMS NET & TWINE CO.

701-3 NORTH SECOND STREET • ST. LOUIS, MO.

LIST OF PACIFIC COAST DEALERS

Seattle Marine & Fishing Supply Co.
Pier No. 59
Seattle 1, Washington

Tacoma Marine Supply, Inc.
103 South 11th St.
Tacoma 2, Washington

Seaside Supply Stores, Inc.
803 So. Palos Verdes
San Pedro, California

San Diego Marine Hdw. Co.
1502 India St.
San Diego, California

Angelo D'Acquisto
1108 Cabrillo St.
San Francisco (18), Calif.

A. D'Acquisto & Sons
Municipal Wharf
Monterey, California

Englund Marine Supply Co.
Branch Store
Newport, Oregon

Englund Marine Supply Co.
Foot of 15th Street
Astoria, Oregon

Test on THE CANADIAN FISHING COMPANY Boat

Endorses

COPEROYD

REG. U.S. PAT. OFF.

THE SUPERIOR ANTI-FOULING BOTTOM COATING

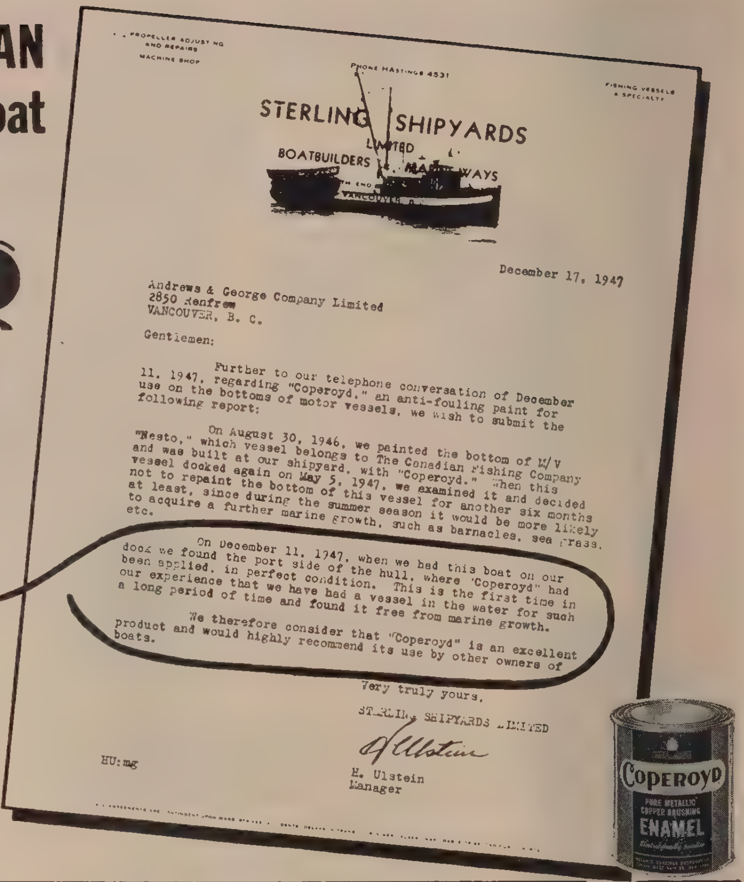
- Proves its immediate cash value to operators of fishing boats and work boats as well as fast craft. See the official report on 15 months' active service:—

> "WE FOUND THE PORT SIDE OF THE HULL, WHERE "COPEROYD" HAD BEEN APPLIED, IN PERFECT CONDITION. THIS IS THE FIRST TIME * * * WE HAVE HAD A VESSEL IN THE WATER FOR SUCH A LONG TIME AND FOUND IT FREE FROM MARINE GROWTH. WE CONSIDER "COPEROYD" AN EXCELLENT PRODUCT AND HIGHLY RECOMMEND ITS USE."

A smooth clean hull means faster trips to the fishing grounds and back—important savings on fuel—fewer costly haulouts—absolute protection against teredos, barnacles, marine growths. This liquid copper sheathing is easily applied to any boat—wood or steel. It outlasts other bottom coatings. It will *pay* you to have "COPEROYD" on your boat. *Write for full information today.*

METALLIC COATINGS CORPORATION

234 W. 44th St. NEW YORK 18, N.Y.



PROPELLER ADJUSTING AND REPAIRS
MACHINE SHOP

PHONE HASTINGS 4531

FISHING VESSELS A SPECIALTY

STERLING SHIPYARDS
LIMITED
BOATBUILDERS MARINE WAYS
VANCOUVER

December 17, 1947

Andrews & George Company Limited
2850 Renfrew
VANCOUVER, B. C.

Gentlemen:

Further to our telephone conversation of December 11, 1947, regarding "Coperoyd," an anti-fouling paint for use on the bottoms of motor vessels, we wish to submit the following report:

On August 30, 1946, we painted the bottom of M/V "Nesto," which vessel belongs to The Canadian Fishing Company and was built at our shipyard, with "Coperoyd." When this vessel docked again on May 5, 1947, we examined it and decided not to repaint the bottom of this vessel for another six months at least, since during the summer season it would be more likely to acquire a further marine growth, such as barnacles, sea grass, etc.

On December 11, 1947, when we had this boat on our dock we found the port side of the hull, where "Coperoyd" had been applied, in perfect condition. This is the first time in our experience that we have had a vessel in the water for such a long period of time and found it free from marine growth.

We therefore consider that "Coperoyd" is an excellent product and would highly recommend its use by other owners of boats.

Very truly yours,

STERLING SHIPYARDS LIMITED

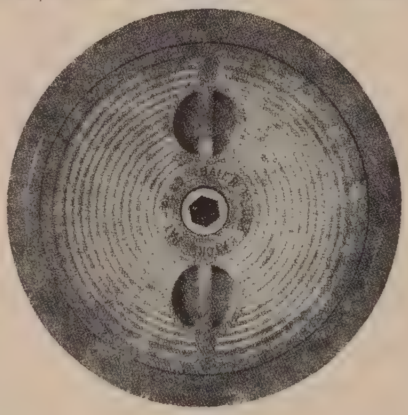
H. Ulstein

H. Ulstein
Manager

HU:mg

BAIER FLUSH HATCH

APPROVED BY U. S. COAST GUARD



TOP VIEW

BOTTOM VIEW

USED ON: Fishing boats, tugs, ferry boats, work boats, and pleasure craft.

WATERTIGHT: Exclusive, patented design insures permanent seal against water or moisture.

QUICK OPENING: Can be quickly and easily removed from either above or below. Safety first.

CORROSION RESISTANT: Cover made of non-ferrous metals, special aluminum alloy or bronze, throughout. Bronze deck ring for wood decks; galvanized steel ring for steel decks.

DISTRIBUTORS:

ALBERT J. LILYGREN COMPANY
San Francisco, California

JULES ENGINE & EQUIPMENT COMPANY
Seattle, Washington and Alaska

MARINE PRODUCTS & ENGINEERING COMPANY
New York City and the East Coast

SOLD BY: LLEWELLYN SUPPLY COMPANY, Wilmington, California.
GOULD HARDWARE & MACHINERY CO., San Diego, Calif.
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CINCOTTA BROTHERS, San Francisco, California.
EQUITABLE EQUIPMENT COMPANY, New Orleans, Louisiana.
OREGON MARINE SUPPLY COMPANY, Portland, Oregon.
ALFRED PUUSTI & COMPANY, Astoria, Oregon.

Write, Wire or Phone for Details

L. S. BAIER & ASSOCIATES

516 Mead Building, Portland 4, Oregon Telephone ATwater 2445

Marine Designers and Engineers

FOUR POPULAR SIZES:
20", 14", and 8" diameter round, and 13½" x 20½" oval.

BAIER FLUSH HATCHES NOW SPECIFIED BY NAVAL ARCHITECTS FOR BOATS **ALL OVER THE WORLD**

DiMaggio Chooses "Caterpillar" Diesel

ABOVE — Fishing boat CATERINA running at full speed ahead on Monterey Bay. Picture at right shows Neno DiMaggio with his son Mario and Frederick Consiglio, sturdy fishermen all.

WHEN it came time to re-engine the fishing boat CATERINA, Neno DiMaggio, prominent Monterey fisherman insisted on getting the best for the purpose — a "Caterpillar" marine diesel engine D4600, 65 continuous horsepower. With this new power plant, the CATERINA packs 8 tons of fish at 9 knots. Engine and accessories were purchased from the Thomas A. Short Co. of San Francisco.

**SELLING YOU THE RIGHT FISHING
BOAT ENGINE IS OUR BUSINESS**

Inquiries Handled Promptly . . . TEL. YUkon 6-0296

THOMAS A. SHORT CO.
"CATERPILLAR" DIESEL MARINE ENGINES
245 FREMONT STREET · SAN FRANCISCO

Fortune Fisheries

FORTUNE BRAND

CANNED AND FROZEN FISH PRODUCTS

AND VITAMIN LIVERS

GArfield 1-1407
TWX SF191
CABLE FORTUNE

JACK WILLIAMSON, *President*
539 WASHINGTON STREET
SAN FRANCISCO, CALIFORNIA

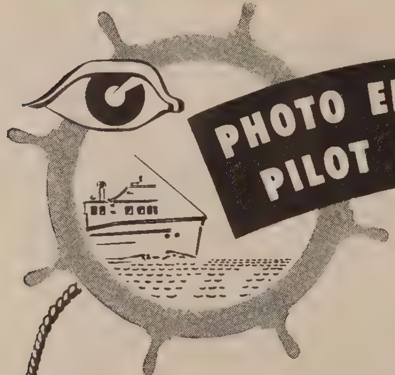


PHOTO ELECTRIC PILOT *

AT THE HELM

Let the Photo Electric Pilot do your steering. An "extra hand" at the helm assures more leisure and relaxation on long runs . . . in fog . . . under conditions of heavy seas and poor visibility and yet will never wander off the course. It frees the skipper for hours of planning and work . . . results directly in more profits. Install your Photo Electric Pilot now

MAIL COUPON FOR INFORMATION

* **PHOTO ELECTRIC PILOT CORPORATION**
2416 SECOND AVENUE SEATTLE 1, WASHINGTON

Type of boat__________ Length________ Approx. speed________

Name______________________________

Address___________________________

PF-1

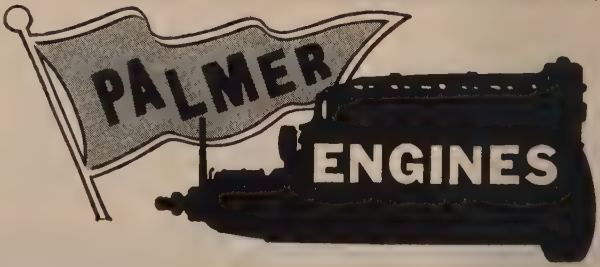
"THE WAKE TELLS THE STORY"

BALL TRADE MARK **BAND**
REG. U.S. PAT. OFF. 1901

For better boots "look for the Red Ball trade-mark," the safe guide to honest boot value for nearly half a century.

MISHAWAKA RUBBER & WOOLEN MFG. CO.
MISHAWAKA, INDIANA

BALL-BAND
MISHAWAKA INDIANA



THE MOST ENGINE PER DOLLAR

After 50 years, Palmer still offers you old-time quality at remarkably low prices in modern high and low speed engines. They include engines from 2 HP to 120 HP for Gasoline and 40 HP and 60 HP in Diesels. Let us tell you how this is possible. Write:

Palmer Bros. Engine Corp.
Stevens Street
Cos Cob, Connecticut

SEND FOR PRICE LIST

Better markets abroad mean bigger payrolls at home

Like other basic industries of British Columbia, our fisheries depend largely upon export markets for steady employment of large numbers of men and women and maintenance of high wage standards. The battle for these markets is unending. It is a situation which can only be met by more intensive sales efforts, better marketing methods and highest quality products. Only by the willing co-operation of all concerned—fishermen, plant employees, technicians and management—can these markets be maintained and extended, to the benefit of all.

RUPERT BRAND FROZEN FISH

CLOVER LEAF CANNED Seafoods

BRITISH COLUMBIA PACKERS LIMITED

Packers and Distributors of
CLOVER LEAF SEAFOODS . . . RUPERT BRAND FRESH AND FROZEN FISH
22 Fishing Stations, Canneries, Cold Storage and Reduction Plants
Along the British Columbia Coast.

PR-2

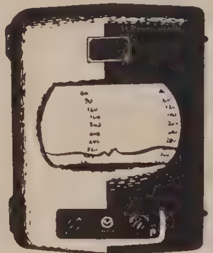
YOU CAN RELY

ON THE BENDIX DEPTH RECORDER

4 TIME-TESTED BENDIX MODELS—SELECT THE ONE THAT WILL DO YOUR JOB BEST

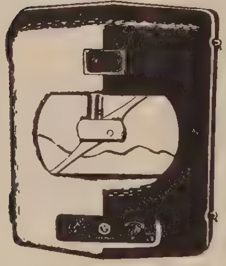
DR-5

Range: 0-200 feet and 0-200 fathoms. Designed for inshore commercial fishing. Completely self-contained unit. Transducer is supplied with sea chest for inboard mounting in steel or wooden hulls. Available in all marine voltages.



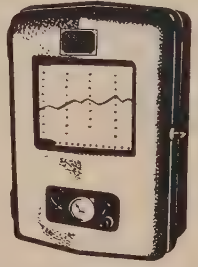
DR-6

Range: 0-400 feet and 0-400 fathoms. For deep operations. Records an instantaneous, permanent chart of all undercraft conditions in natural profile—a feature of all Bendix Depth Recorders. 6" transducer for inboard or outboard mounting. All marine voltages.



DR-8A

Range: 0-50 feet and 0-50 fathoms. For dredges, harbor and river surveys. Extremely accurate. Produces easy-to-read chart of bottom profile. 3" transducer for inboard or outboard mounting. Available in 6, 24 and 110 volts A.C. and 110 volts D.C. May be operated from auto-type battery.

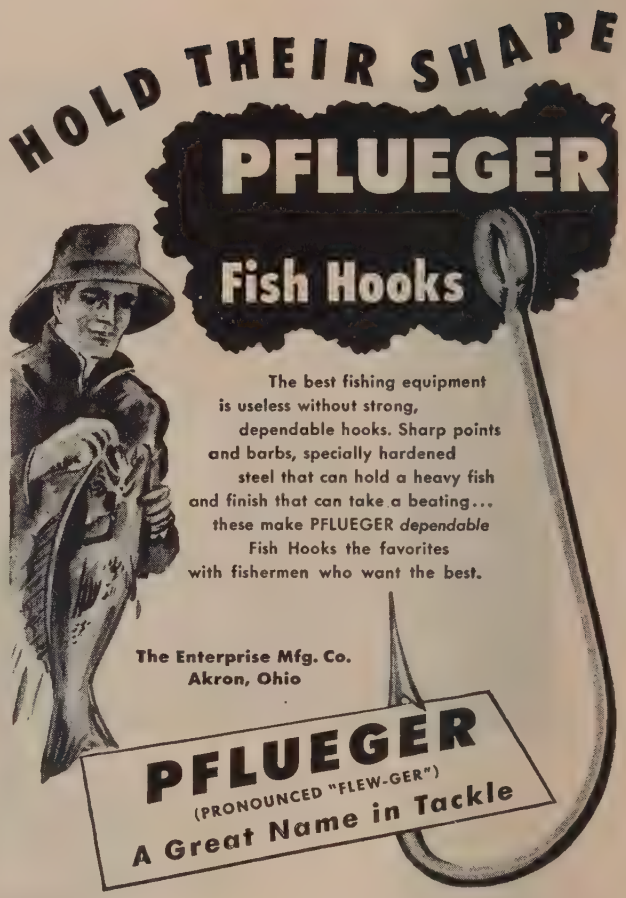


"BANTAM"

Range: 100 fathoms. Revolutionary new low-priced Recorder. Completely self-contained. Tamper-proof electronic unit—requires only 50 watts of power. Gives permanent record of undercraft conditions. 3" transducer mounted in hull. Operates on 12, 24 and 32 volts D.C.

Pacific Division
Bendix Aviation Corporation
NORTH HOLLYWOOD, CALIF.

EAST COAST OFFICE: 475 FIFTH AVE., NEW YORK 17, N.Y.
EXPORT AGENTS: BENDIX INTERNATIONAL, 72 5TH AVE., NEW YORK 11, N.Y.



The best fishing equipment is useless without strong, dependable hooks. Sharp points and barbs, specially hardened steel that can hold a heavy fish and finish that can take a beating... these make PFLUEGER *dependable* Fish Hooks the favorites with fishermen who want the best.

The Enterprise Mfg. Co.
Akron, Ohio

Dura-Nett Plastic

Cotton and Linen Netting Preservative

Mr. Canneryman:
Mr. Fisherman:

You can NOW buy your cotton or linen netting already treated with DURA-NETT at Nordby's. Why worry about your netting being BURNED? Why worry about suitable weather for drying it? Your worries are over when you buy DURA-NETT-Treated netting.

DURA-NETT protects web against rot, mildew, marine growth, fish slime. It increases wear resistance—increases strength and maintains flexibility of web—lessens water absorption.

DISTRIBUTOR FOR
NORTHWEST and ALASKA

NORDBY SUPPLY CO.
1300 Western Ave., Seattle 1

or write

GENERAL PLASTIC MFG. CO.
3423 So. Union Ave., Tacoma 9

Cummins Diesels Save Fuel

CUMMINS
Dependable
DIESEL
SINCE 1918...PIONEER OF PROFITABLE POWER THROUGH HIGH SPEED DIESELS

Compare the cost! **Operate a Cummins Diesel alongside other engines—diesel, gasoline, or steam—then check your fuel bills. Here's what our customers report:**

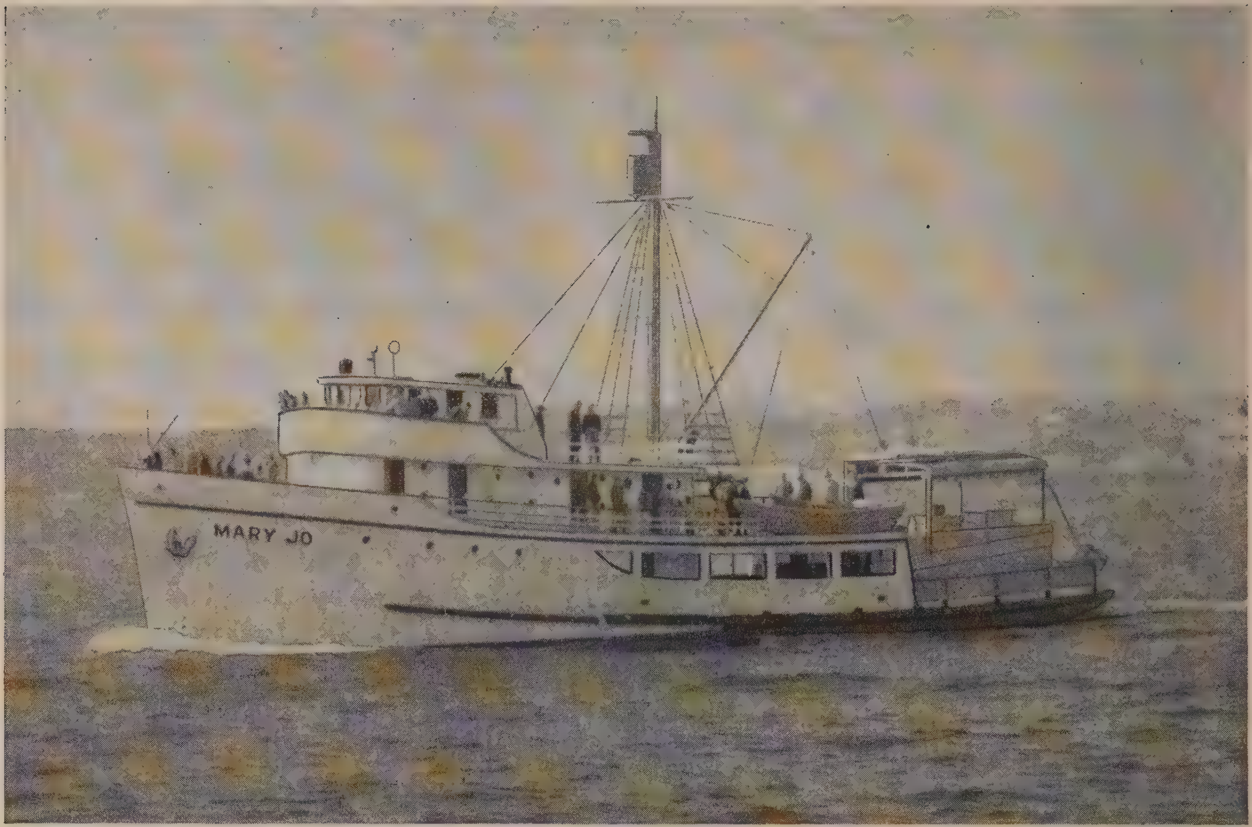
Annual Savings: $1445.00

Yearly fuel costs for a 47-foot Cummins-powered fishing boat are $1445.00 less than the fuel costs of the gasoline engine used previously. That's because the Cummins-powered boat makes a three-week trip for an average fuel cost of $65.00, against $150.00 for the same trip when the gasoline engine was used.

Annual Savings: $1063.73

Yearly fuel costs for a Cummins-powered ferryboat are $1063.73 less than the fuel costs of a similar ferryboat used on the same job but powered by another make of diesel. That's because the Cummins-powered ferryboat operates on three gallons of diesel fuel per hour, against six gallons per hour for the other diesel.

CUMMINS ENGINE COMPANY, INC. • COLUMBUS, INDIANA



NEW TUNA CLIPPER

"MARY JO"

108′ x 26′ x 13′

Features

"BUILT-IN"

STABILITY

and

SEAWORTHINESS

A Martinac-Built
Boat Is Your Guarantee of Complete
Satisfaction!

Stability and seaworthiness are built into every inch of the new 108-foot tuna clipper "Mary Jo" owned by Skipper Joe C. Rogers, Chief Engineer Bill Williams and Associates of San Diego.

The 190-ton capacity "Mary Jo" joined the ever-growing fleet of MARTINAC-Built fish boats early in 1949. From stem to stern she stands as a symbol for sturdy dependability.

Power in plenty is assured by her 465-hp. Superior Diesel engine. Auxiliaries are two, a pair of 150-hp., 75 kw Superior Diesel-generating sets. Accessory equipment includes a Coolidge propeller, a 5¾″ Monel tail shaft and a 6″ Goodrich Cutless Bearing.

All-brine refrigeration is supplied by four (1-6″x6″, 2-5″x5″ and 1-3″x3″) Worthington compressors. Navigational aids include a Fathometer, a Photo-Electric Pilot, a 500-watt Pacific Electronics radio telephone and an Apelco radio direction finder.

For years proud fishermen have lauded the fish catching exploits of their MARTINAC-Built fish boats. Our boat building facilities are second to none, and we welcome the privilege of serving our many friends and customers.

J. M. MARTINAC SHIPBUILDING CORP.

1501 RAILROAD AVENUE, TACOMA, WASHINGTON

Questions to ask about your wrappers

Are they the best wrappers you can buy for the money?

Do they give proper protection?

Do they have sales appeal?

Does the design and printing need freshening up in keeping with 1949 styles?

Patapar *gives you the answers*

Its unique characteristics make Patapar* Vegetable Parchment the ideal wrapper for delicate foods. It has high wet-strength. It is boil-proof. It resists grease.

For protection, Patapar gives you a wrapper that really helps keep your product fresh—appetizing. And its rich white texture lends beauty and sales appeal. *Patapar can be printed exquisitely with bright colors and appealing designs.* Our plants are equipped for printing Patapar economically by letterpress or offset lithography. Our art department will help create a fresh wrapper design for you with new life and sparkle.

If you have a special problem, we can give you a special type of Patapar. In all there are 179 different types to choose from.

Why not get in touch with Patapar?

*Reg. U.S. Pat. Off.

Protected
by
Patapar
Vegetable
Parchment

Ideal For

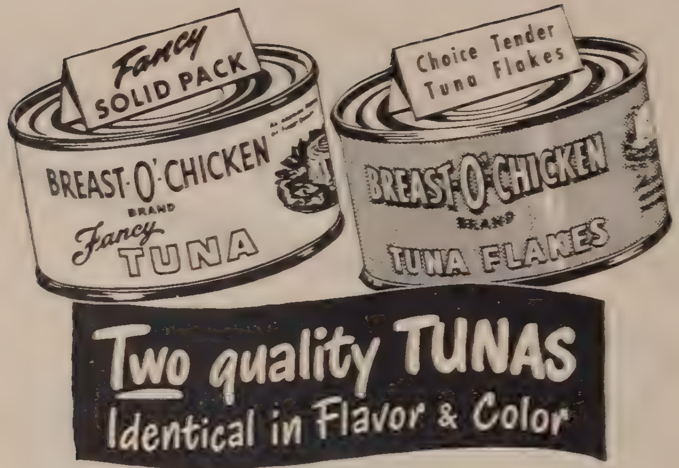
- Fillet wrappers
- Box liners
- Recipe inserts
- Dried fish wrappers
- Canned sea food liners
- Frozen fish wrappers

and many other uses

Paterson Parchment Paper Company • Bristol, Pennsylvania

Headquarters for Vegetable Parchment Since 1885

WEST COAST PLANT: 340 BRYANT STREET, SAN FRANCISCO 7, CALIFORNIA
BRANCH OFFICES: 122 EAST 42nd ST., NEW YORK 17, N.Y. • 111 WEST WASHINGTON ST., CHICAGO 2, ILL.


Fancy
SOLID PACK
BREAST-O'-CHICKEN
BRAND
Fancy
TUNA
Choice Tender
Tuna Flakes
BREAST-O'-CHICKEN
BRAND
TUNA FLAKES
Two quality TUNAS
Identical in Flavor & Color

This kind of selling could never dispose of the tuna pack at a profit to anyone!

WESTGATE SEA PRODUCTS CO.

buys millions of advertising impressions every month to sell the tuna you catch!

Housewives buy the brand they are familiar with and can depend on for uniform quality.

EVERY day that you are out fishing, tens of thousands of women are reading Breast-O'-Chicken tuna advertisements which tell them how to use the tuna you catch. This daily job of selling tuna is what creates the profit for fishermen and canners alike. Nobody really makes a dime until the fish you catch is bought in a grocery store and taken home and eaten. You share the benefit of Westgate's daily expenditure of money to sell their brands of tuna.

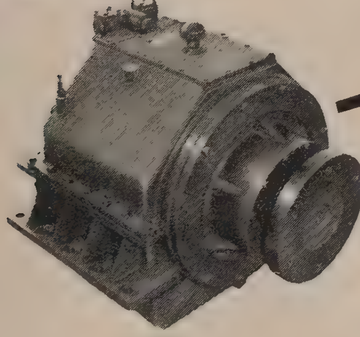
Packers of BREAST-O'-CHICKEN Brand WHITE & GREEN LABELS - BREAST-O'-TUNA, ALAMO & CORTEZ Brands

WESTGATE SEA PRODUCTS COMPANY - SAN DIEGO 1, CALIFORNIA

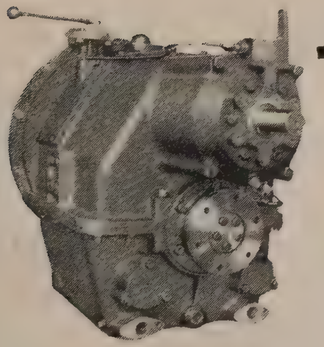
new

PACIFIC-WESTERN Geared Products

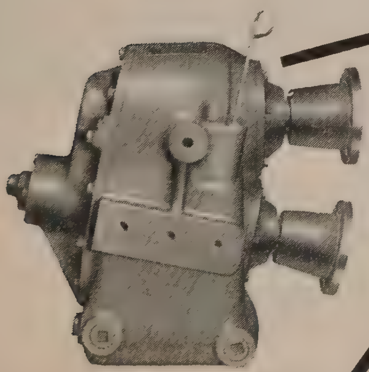
To their existing lines of speed reducers, shipboard cranes, and deck machinery, Western Gear Works have added advanced designs in propulsion gearing and other geared marine equipment—all backed by 50 years of gearmaking experience.



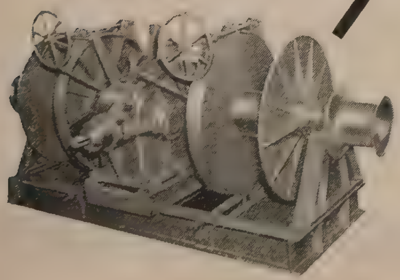
New Planetary Reduction Gears Save Weight and Space Remarkable savings in weight and space are possible with this new type of reduction gear. For example, the weight of a 2:1, 1200-hp unit we installed in a tuna clipper was only 4,500 pounds. The gear enabled the use of a 600-rpm engine instead of a heavy, 300-rpm direct-drive engine. Total saving in weight was approximately 30,000 pounds. This gear was so compact it could be installed in the shaft alley, saving valuable engine-room space. An achievement in the design of this new gear is the fact that stress and wear factors are no greater than in the conventional type, despite the light weight and compact size. A range of sizes and ratios suitable for your engine and propeller requirements can be supplied.



Easy Fingertip Control with this Reverse and Reduction Gear Actual fingertip control is possible with the hydraulically operated clutches, which afford smooth easy engagement and eliminate the need for costly mechanical linkages. Therefore, remote control from any desired point can be installed easily and inexpensively, with assurance of prompt engine response. The Western Marine Gear, which mounts easily on any standard engine, can be operated full power in reverse continuously, thus permitting right- and left-hand propeller rotation with two right-hand engines. Four power take-offs are available on each unit. Lubrication is automatic. Gear ratios available from 1½:1 to 4:1.



Quiet Vee-Drive Unit The Western Marine Vee-Drive is available in five ratios, 1:1, 1½:1, 2:1, 2½:1, and 3:1 for engines up to 150-hp at 3200-rpm input. Quiet operation, built-in pressure lubrication, and water-jacketed housing are only a few of its features.



Smooth-Acting Trawl Winch A complete line of winches of new improved design is available for bottom fishing vessels of all types. Diesel hydraulic or electric drives can be supplied to provide an adequate line-pull and speed range to meet the requirements of the vessel and its fishing gear.

Write, wire, or phone your nearest Pacific-Western office for further information on the equipment shown, or on other of your requirements for geared marine products.

WESTERN GEAR WORKS, Seattle 4, Washington • Box 192, Lynwood, California
PACIFIC GEAR & TOOL WORKS, San Francisco 3, California
SALES REPRESENTATIVES: Houston . . . Portland . . . Salt Lake City

AGMA MEMBER

PACIFIC GEAR & TOOL WORKS — WESTERN GEAR WORKS

PACIFIC-WESTERN

GEAR PRODUCTS

4845

Another Top Ranker in the Tuna Fleet!

The "CORONADO"

In the fishing fraternity, Peterson-built fish boats have long enjoyed a reputation for being tops in the tuna and sardine fleets. The new 103-foot "Coronado" is no exception!

Built in 1948 for O. E. "Jimmy" Hitchcock, Capt. Joe Dores and Associates, of San Diego, the "Coronado," as usual, has numerous innovations calculated to make fishing easier and more efficient. She is powered by a 465 H.P. Superior Diesel.

The latest vessel to join the ever growing fleet of Peterson-built fish boats is the brand new 98-foot tuna clipper "Viking," owned by Capt. Frank Brenha and Associates of San Diego. For main power she has a 465 H.P. Superior Diesel.

"For PERFECTION - - PETERSON-built boats"

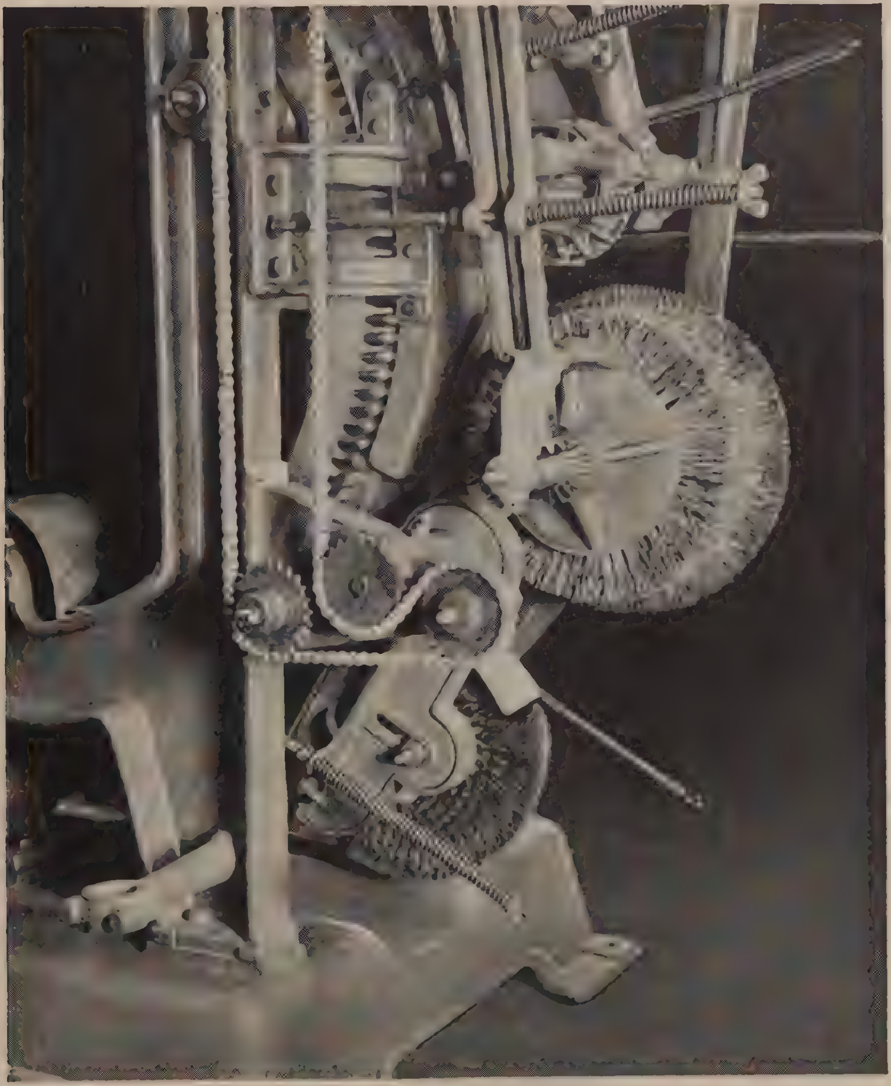
PETERSON BOATBUILDING COMPANY

223 East F Street ★ ★ ★ Tacoma, Washington

NYLON BRUSHES

Have Been More Than Satisfactory On

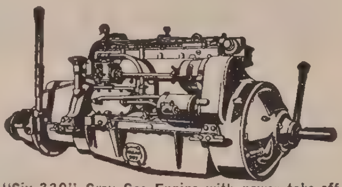
THE "IRON CHINK"



All of the many canneries using the NYLON BRUSHES have proved that sufficient sliming labor is saved to pay for these brushes in a short time. They last season after season.

NYLON BRUSHES are now available in the coarser or softer fibre for both the upper [G-66] unit and the lower [D-331] attachment.

SMITH CANNERY MACHINES CO. • SEATTLE, U. S. A.



"Six-330" Gray Gas Engine with power take-off

We Also Distribute:

FEDERAL PROPELLERS
(Equi-poise and Tru-pitch)
MAXIM SILENCERS
PARAGON REVERSE GEARS
BAIER FLUSH HATCHES

GRAYMARINE
Sales and Service

GASOLINE ENGINES
27 Models—2 to 175 H.P.

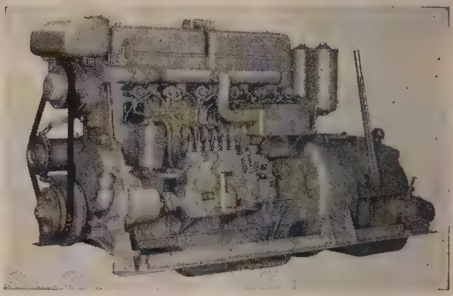
•

DIESEL ENGINES
3 Models—35, 55, and 150 H.P.

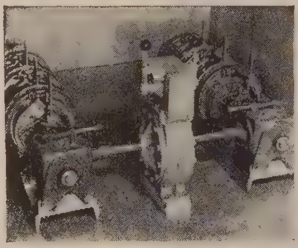
•

Wisconsin Marine Motors

•



Model Six-572—150 H.P. DIESEL



Install a HYDRA-HOIST

For Anchor Winches, Trolling and Halibut Gurdies, Crab Hoists, Gillnet Drives Etc.

HYDRA-SALES, INC.
ALder 7100

Any speed from 0-200 rpm in both forward and reverse rotation. No clutch to shift. Powerful, Flexible and Positive.

Jules ENGINE & EQUIPMENT CO.

SVERRE O. JULES

GRAY MARINE MOTORS GASOLINE DIESEL

Pacific Northwest and Alaska Distributors

2722 WESTLAKE AVE. NORTH
GArfield 4110
SEATTLE, WASH.

Commercial Craft for Every Purpose

55′ seiner built by Grandy Boat Co., Seattle

37′ seiner built by Bryant's Marina, Seattle.

48′ steel troller, built by Birchfield Boiler, Tacoma

40′ troller built by Glein Boat Works, Gig Harbor.

Pleasure and Commercial Craft

Edwin Monk

Naval Architects
EDWIN MONK — LORNE GARDEN

Wood and Steel

1500 WESTLAKE AVE. NORTH
SEATTLE, WASHINGTON

TUBBS
EXTRA SUPERIOR MANILA
CORDAGE COMPANY

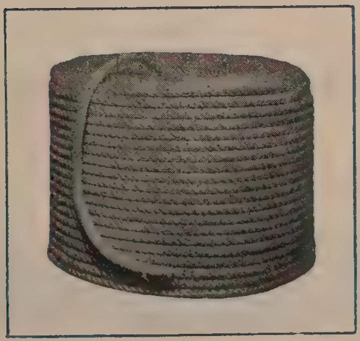
Get EXTRA USE with

EXTRA SUPERIOR MANILA

In commercial fishing, high quality Manila rope is a necessity. High quality rope means dependability and longer life.

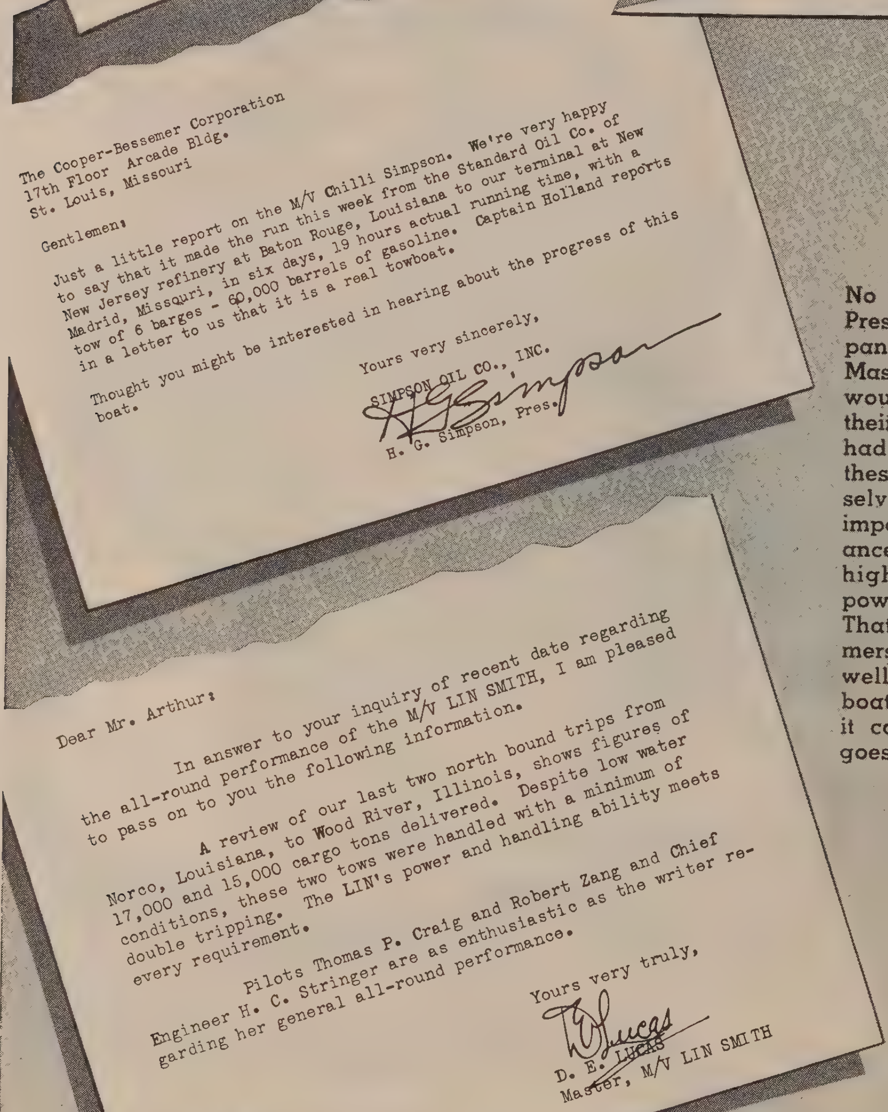
"Extra Superior" Manila rope is expertly made from high quality fiber—it provides the **extra** use and **extra** value so essential to fishing.

"Extra Superior" Manila rope is an exclusive product of Tubbs Cordage Company, manufacturers of high quality marine rope for more than 90 years.



TUBBS
CORDAGE COMPANY
SAN FRANCISCO, SEATTLE, Portland, Los Angeles
Chicago, New York

Letters Fine Diesels *Helped Write*



The Cooper-Bessemer Corporation
17th Floor Arcade Bldg.
St. Louis, Missouri

Gentlemen:

Just a little report on the M/V Chilli Simpson. We're very happy to say that it made the run this week from the Standard Oil Co. of New Jersey refinery at Baton Rouge, Louisiana to our terminal at New Madrid, Missouri, in six days, 19 hours actual running time, with a tow of 6 barges - 60,000 barrels of gasoline. Captain Holland reports in a letter to us that it is a real towboat.

Thought you might be interested in hearing about the progress of this boat.

Yours very sincerely,
SIMPSON OIL CO., INC.
H G Simpson
H. G. Simpson, Pres.

Dear Mr. Arthur:

In answer to your inquiry of recent date regarding the all-round performance of the M/V LIN SMITH, I am pleased to pass on to you the following information.

A review of our last two north bound trips from Norco, Louisiana, to Wood River, Illinois, shows figures of 17,000 and 15,000 cargo tons delivered. Despite low water conditions, these two tows were handled with a minimum of double tripping. The LIN's power and handling ability meets every requirement.

Pilots Thomas P. Craig and Robert Zang and Chief Engineer H. C. Stringer are as enthusiastic as the writer regarding her general all-round performance.

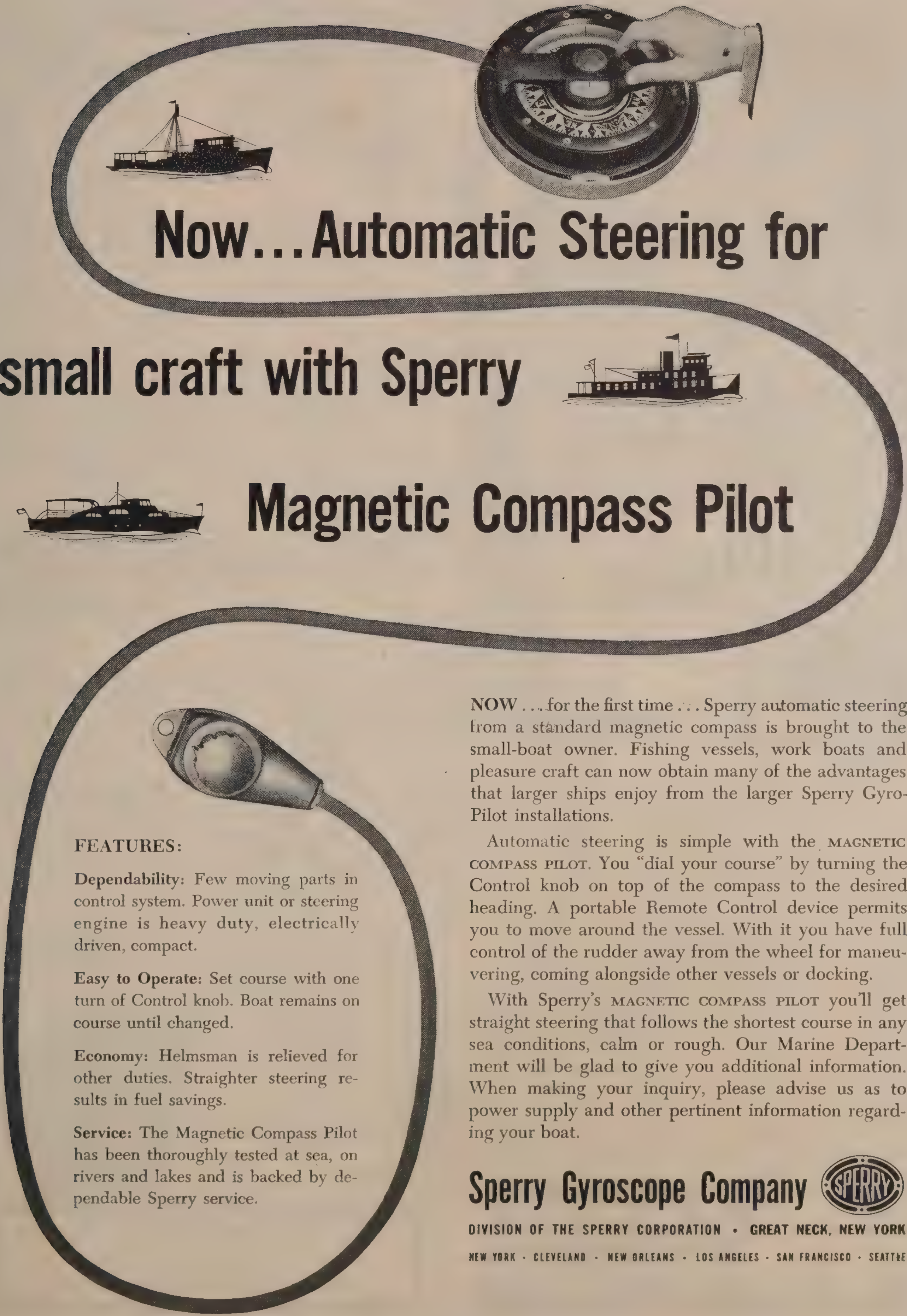
Yours very truly,
D E Lucas
D. E. LUCAS
Master, M/V LIN SMITH

No doubt Mr. H. G. Simpson, President of Simpson Oil Company, and Capt. D. E. Lucas, Master of the M/V LIN SMITH, would be the first to tell you that their Cooper-Bessemer Diesels had a bigger hand in writing these letters than they did themselves! For what *could* be more important to workboat performance, to profitable operation, than highly efficient, dependable power at the lowest of low cost? That's just what Cooper-Bessemers give these fine vessels as well as many other outstanding boats all along the rivers. Maybe it can benefit you, too, as time goes on.

The
Cooper-Bessemer
Corporation

MOUNT VERNON, OHIO — GROVE CITY, PENNA.

570 First Avenue, S., Seattle 4, Washington
640 East 61st Street, Los Angeles 1, Calif. • 61 California Street, San Francisco 11, Calif.
Simson-Maxwell Limited, Vancouver, B. C.



Now...Automatic Steering for small craft with Sperry Magnetic Compass Pilot

NOW . . . for the first time . . . Sperry automatic steering from a standard magnetic compass is brought to the small-boat owner. Fishing vessels, work boats and pleasure craft can now obtain many of the advantages that larger ships enjoy from the larger Sperry Gyro-Pilot installations.

Automatic steering is simple with the MAGNETIC COMPASS PILOT. You "dial your course" by turning the Control knob on top of the compass to the desired heading. A portable Remote Control device permits you to move around the vessel. With it you have full control of the rudder away from the wheel for maneuvering, coming alongside other vessels or docking.

With Sperry's MAGNETIC COMPASS PILOT you'll get straight steering that follows the shortest course in any sea conditions, calm or rough. Our Marine Department will be glad to give you additional information. When making your inquiry, please advise us as to power supply and other pertinent information regarding your boat.

FEATURES:

Dependability: Few moving parts in control system. Power unit or steering engine is heavy duty, electrically driven, compact.

Easy to Operate: Set course with one turn of Control knob. Boat remains on course until changed.

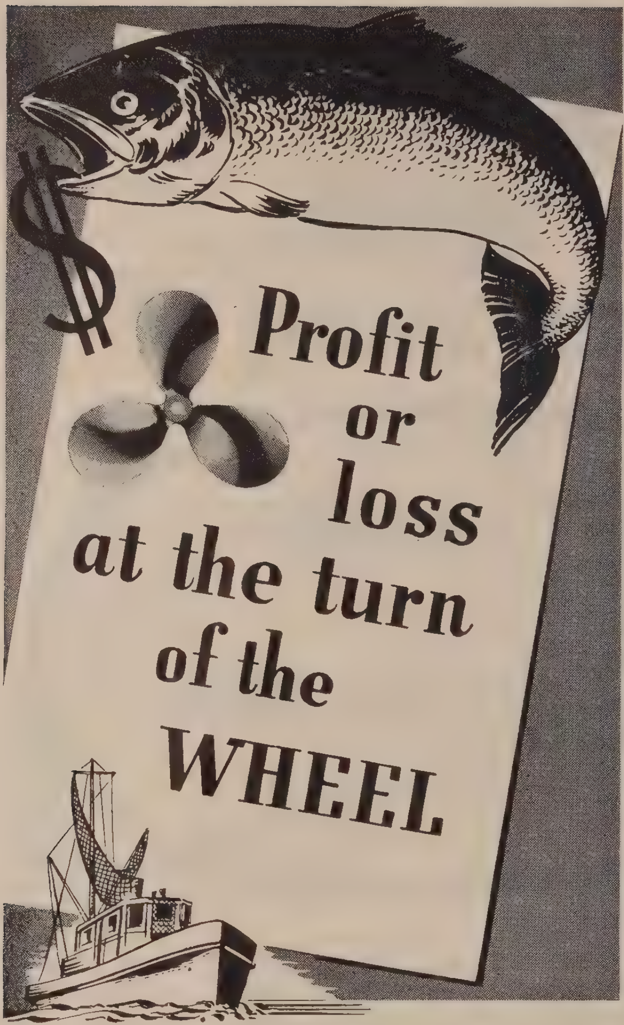
Economy: Helmsman is relieved for other duties. Straighter steering results in fuel savings.

Service: The Magnetic Compass Pilot has been thoroughly tested at sea, on rivers and lakes and is backed by dependable Sperry service.

Sperry Gyroscope Company

DIVISION OF THE SPERRY CORPORATION • GREAT NECK, NEW YORK

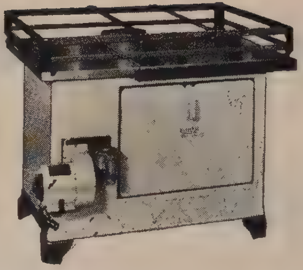
NEW YORK • CLEVELAND • NEW ORLEANS • LOS ANGELES • SAN FRANCISCO • SEATTLE



The fisherman who thinks one propeller is as good as another is probably losing money on every turn of his wheel. FEDERAL propellers are designed to capture every bit of power and convert it into propulsion. They definitely save on gas bills and last longer, too, because the metal they're made from is tough and highly resistant to corrosion. See the "TRU-PITCH" or "COMET" at the nearest FEDERAL dealer and learn why they give you more for your propeller dollars.

FEDERAL PROPELLERS
GRAND RAPIDS · MICHIGAN

FEDERAL PROPELLERS



Olympic
OIL BURNING
MARINE RANGE
Model 1-18 LM

Offers New Beauty and Utility for

MODERN GALLEYS

New, compact design saves galley space. Full white porcelain enamel, easy to keep clean. Spacious oven with POSITIVE LOCK HANDLE. Double sea rail. Legs bolt to deck. Highly polished top. Heavy asbestos insulation. Designed and built for oil; not a "conversion."

Size of top: 35¼" x 24¾". Height: 27"

Weight: 300 lbs. (approx.)

DEALERS

WILMINGTON	Paul W. Hiller
SAN FRANCISCO	Weeks-Howe-Emerson, Inc.
ASTORIA	The Beebe Co.
PORTLAND	The Beebe Co.
TACOMA	Tacoma Marine Supply
EVERETT	Everett Hardware Co., The Lloyd Co.
BELLINGHAM	Morse Hardware
SEATTLE	ALL Marine Dealers
VANCOUVER, B. C.	Edward Lipsett, Ltd.

Washington STOVE WORKS
EVERETT WASH.
OLYMPIC
ALASKA
NEPTUNE

HARD ICE-BREAKING JOBS

QUICKLY HANDLED

G-W Heavy Duty Ice Breaker gives fast, high capacity icing—up to 50 tons an hour! Sturdier, steel body construction means long, economical life . . . no breakdowns. Hopper type, illustrated, takes cake up to 33" x 24". Motor or belt driven types. Specify G-W Ice Breakers for long, hard icing service. Write for Bulletin.

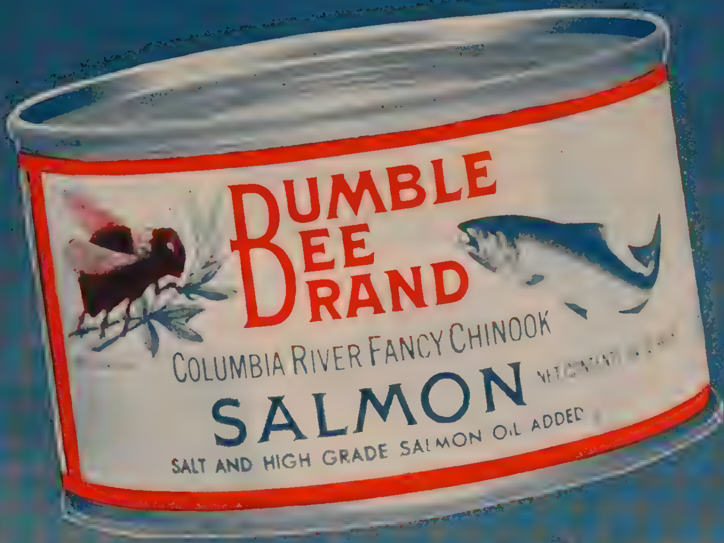
GIFFORD-WOOD CO.
Since 1814
Hudson, N. Y.

NEW YORK 17
420 Lexington Ave.

CHICAGO 6
565 W. Washington St.

Model 480-MD-H

PACIFIC COAST REPRESENTATIVE
WESTERN ICE EQUIPMENT CO.
420 Market Street, San Francisco 11, California


BUMBLE BEE BRAND
COLUMBIA RIVER FANCY CHINOOK
SALMON
SALT AND HIGH GRADE SALMON OIL ADDED

Tops in the New York Market...

HERE'S THE SCORE FOR NEW YORK*

Canned Salmon

Families using 66.7%

Brand	% of users
1. **BUMBLE BEE**	**31.2%**
2. Brand A	6.4
3. Brand B	5.9
4. Brand C	5.6
5. Brand D	4.1
6. Brand E	3.6
7. Brand F	3.0
8. Brand G	2.7
9. Brand H	1.5
10. Brand I	1.4
11. Brand J	1.2
12. Brand K	1.2
Others	11.2
No Preference	22.5

BUMBLE BEE BRAND salmon leads by a clear margin among the readers of the New York Times—perhaps the most discriminating group in the world's largest market. Distributed widely throughout the country now, new markets are constantly being added. The Bumble Bee Brand finds ready acceptance among quality buyers everywhere.

Other canned seafoods carrying the Bumble Bee Brand are:

SHAD ROE	**WHITE MEAT TUNA**
FILET OF SHAD	**LIGHT MEAT TUNA**
BLUEBACK SALMON	**OREGON CRABMEAT**
SMOKED SABLE FISH	

---

*Source: *"Grocery Product Brands used by New York Times Families in New York City and Suburbs"—a study involving 3775 interviews by the Research Dept., The New York Times, May 1948.*

COLUMBIA RIVER PACKERS ASSOCIATION INC.

ASTORIA, OREGON

ATLAS SIGNALS "ECONOMY!"

Owners and operators who maintain accurate records on costs enthusiastically use and recommend Atlas Marine Paints.

Atlas products give longer service and more complete protection because they are compounded by specialists with years of experience in marine paint manufacture.

With Atlas Paints your flags will fly the "smooth sailing" signal.

THERE IS AN ATLAS PAINT FOR EVERY MARINE USE

ATLAS MARINE PAINTS
ATLASHEEN ENAMEL WHITE
ATLAS PAINT & VAR
ATLAS MARINE PAINTS
ANTI-FOULING
ATLAS PAINT & VAR
ATLAS MARINE PAINTS
GOLD LABEL COPPER COMPOUND
ATLAS PAINT & VARNISH·COMPANY

To insure that glistening shipshape "new look" topside, always use Atlaspar Varnish and Atlasheen Enamels — white and new tones.

For protecting steel bottoms against marine growths, always specify Atlas Anti - Corrosive Paints and Atlas Anti - Fouling Paint.

To really repel teredos (worms) grass, barnacles and other marine growth on wooden bottoms, always depend on Atlas Gold Seal Copper Compound—it's "Catalyzed."

ATLAS
PAINT & VARNISH CO.

LOS ANGELES
1922 East Gage Ave.................Kimball 6214
SAN FRANCISCO, Harbor Supply Co.
821 Folsom St...................EXbrook 2-4500
SEATTLE, Maritime Pacific Supply Co.
1917 First Ave...........................ELliot 1461
WILMINGTON
225 No. Avalon Blvd........... .TErminal 43251

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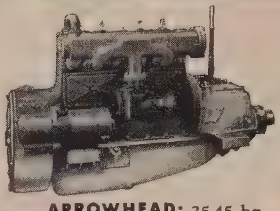
7 Gasoline Models
7 hp. to 140 hp.

FULL DIESEL 65 hp.

3 Spark Diesel Types
42 hp. to 140 hp.

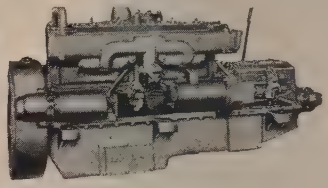
Red Wing MARINE ENGINES



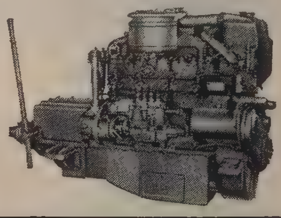
ARROWHEAD: 25-45 hp., 4-cyl., 3⅝ x 4½ in., 186 cu. in., 1000-2000 rpm.

ARROWHEAD JUNIOR
20-40 hp., 4 cyl., 3¼ x 4 in., 133 cu. in., 1000-3000 rpm.

HIAWATHA SPECIAL
58-90 hp., 6 cyl., 4 x 4¼ in., 320 cu. in., 1500-3000 rpm.



65 hp. FULL DIESEL
4 cyl., 4¼ x 4½ in., 255 cu. in., 65 hp. at 1900 rpm. continuous.



Red Wing MARINE ENGINES

RED WING MOTOR CO., RED WING, MINNESOTA

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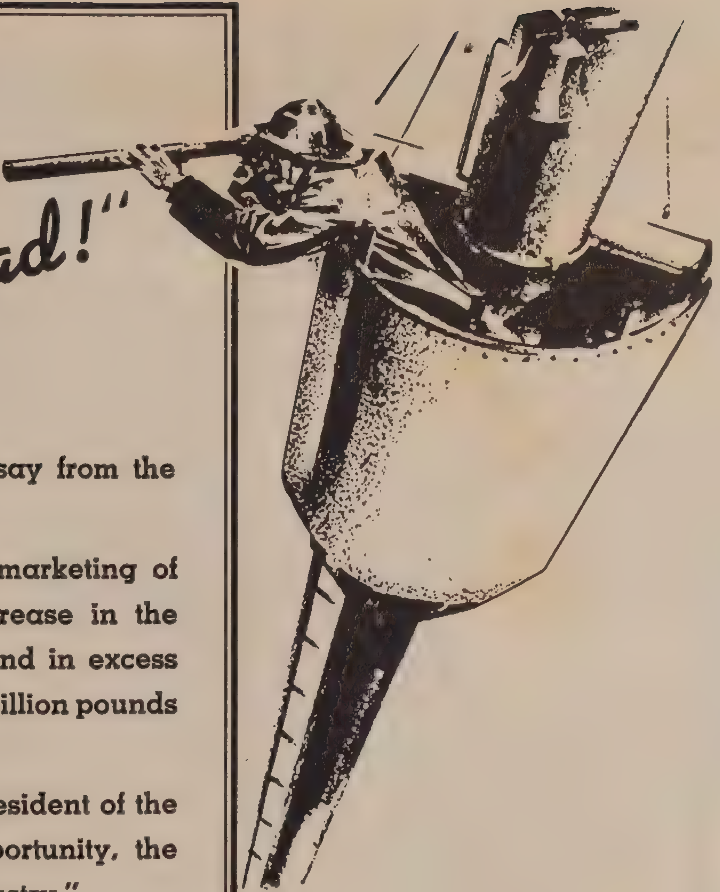

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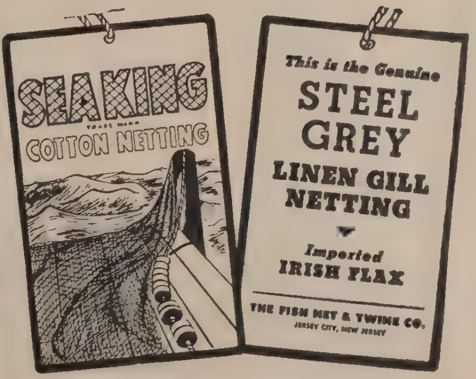
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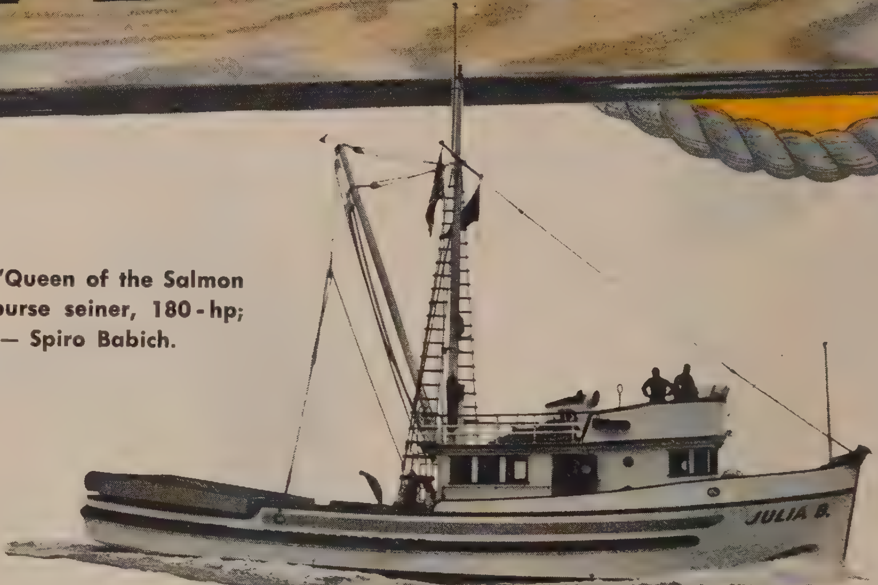
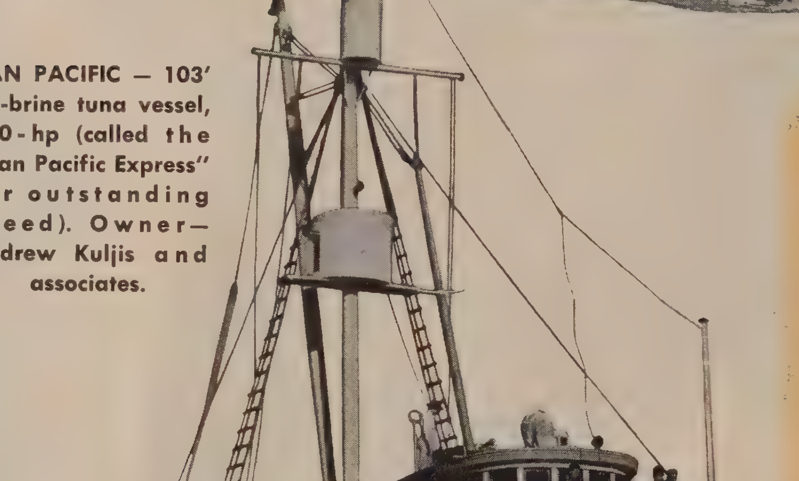


JULIA B. — "Queen of the Salmon Fleet," 66' purse seiner, 180-hp; owner — Spiro Babich.



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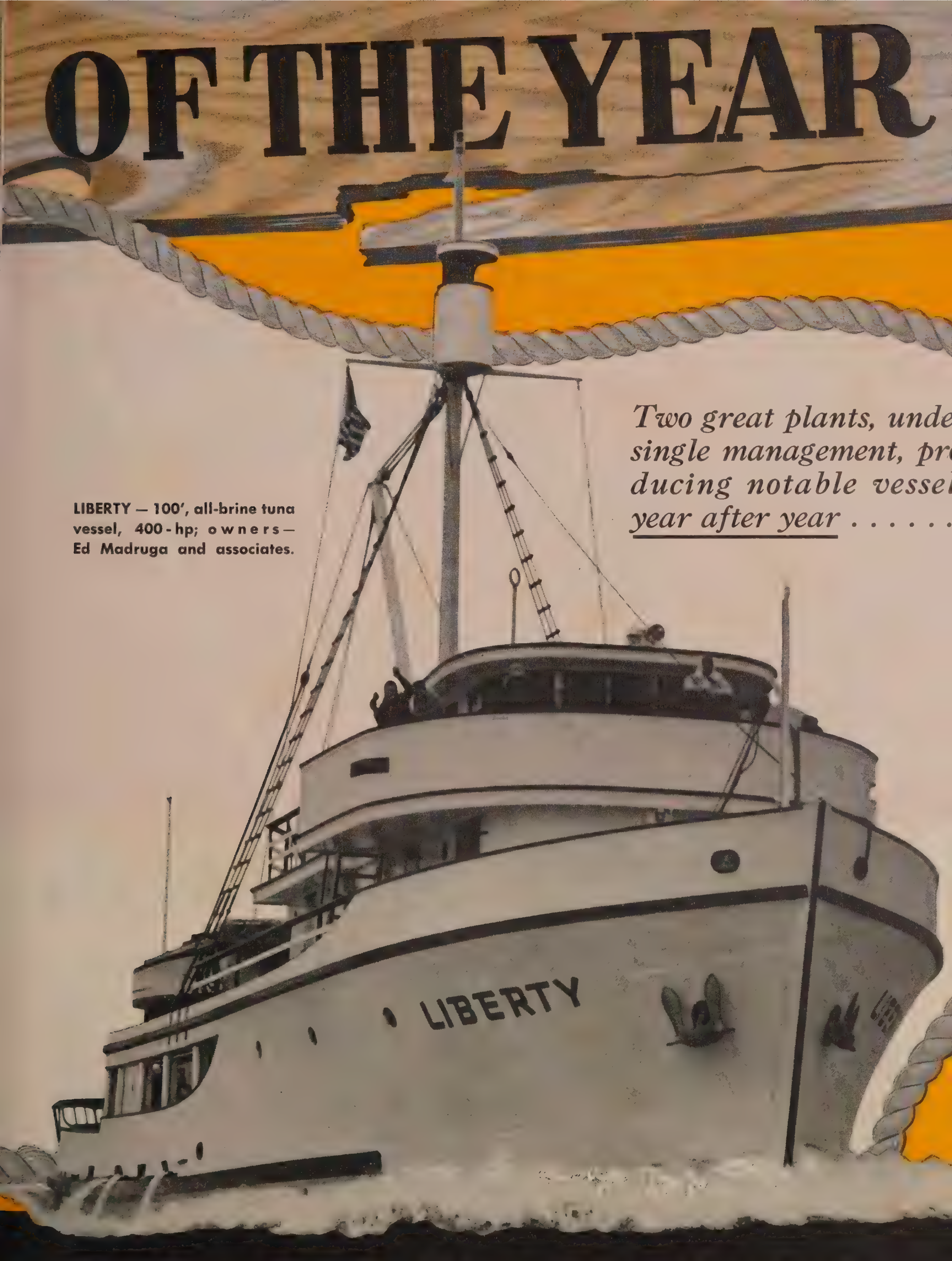

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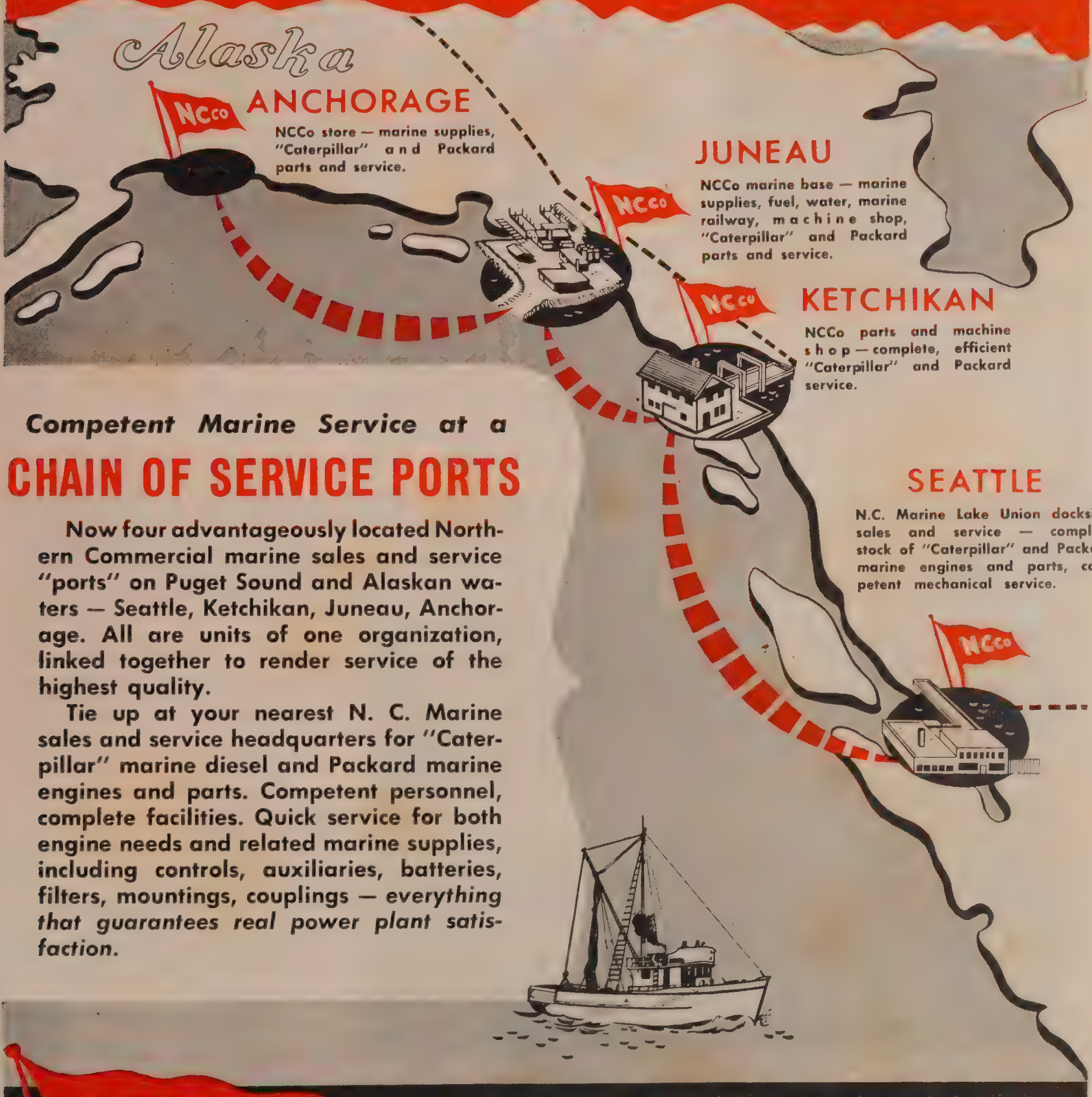

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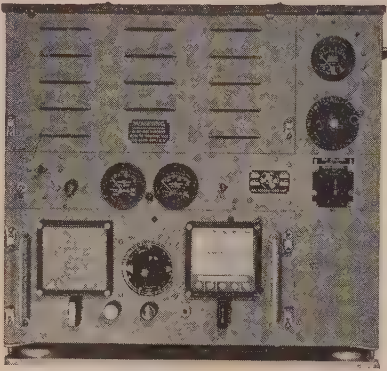

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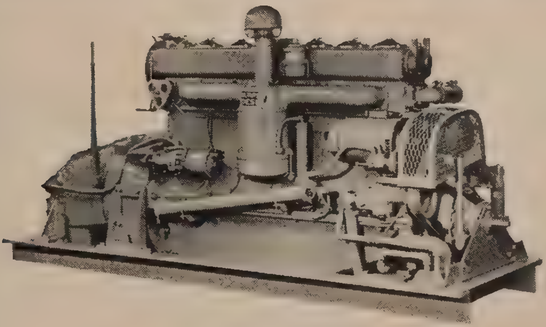

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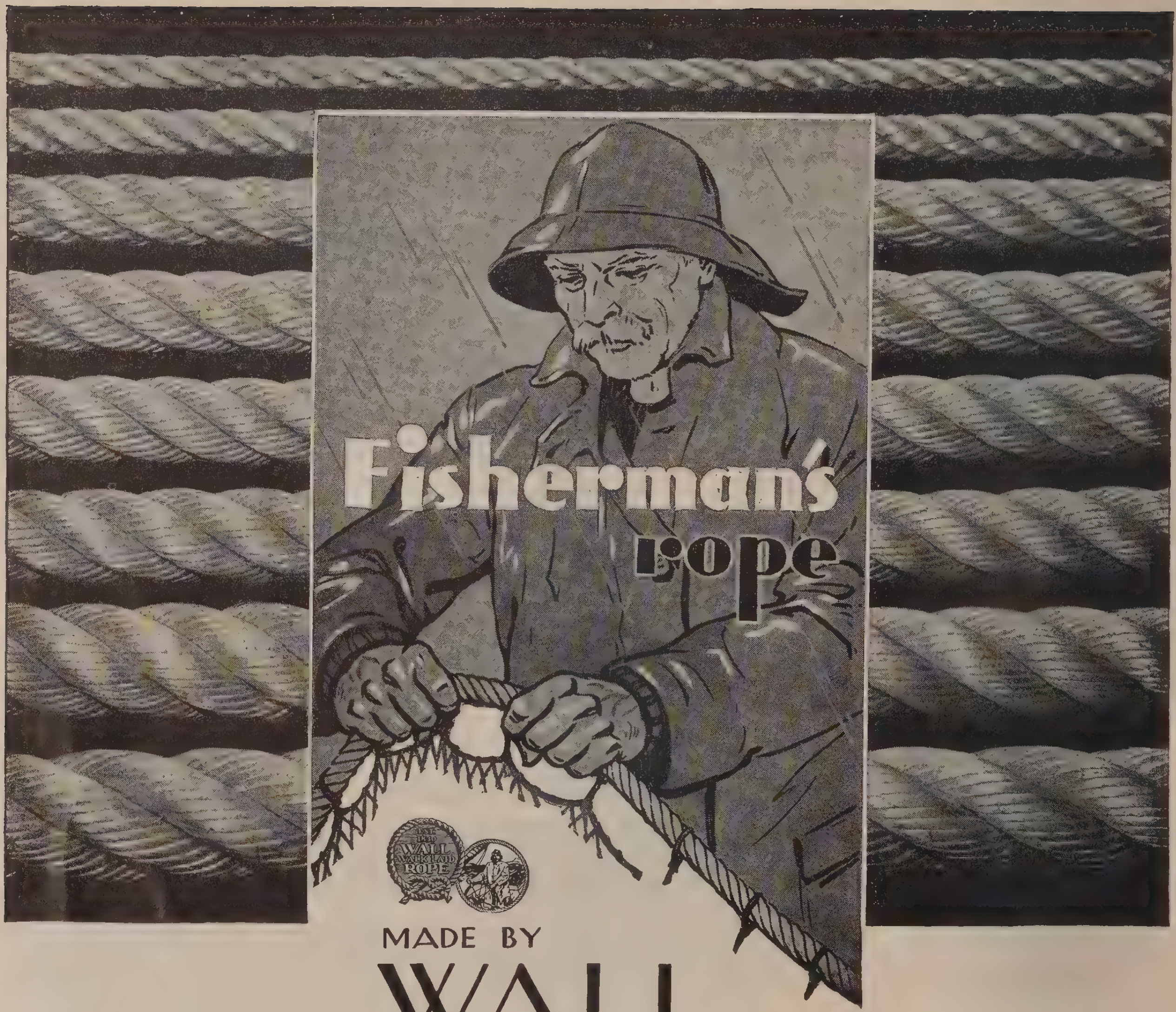

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(Data as of Jan. 1, 1949)

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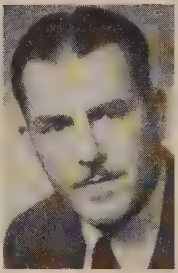

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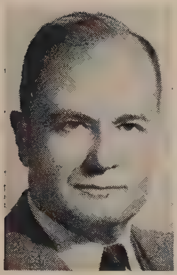

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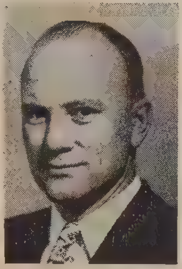

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(Data as of Jan. 1, 1949)

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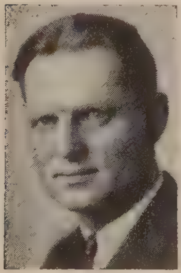

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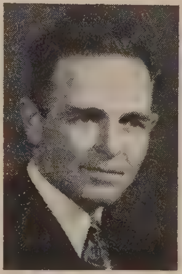

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Emil Nilson

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J. J. Camillo

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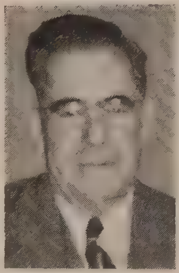
F. J. Cardinale


A. H. Wright

Off-Shore Fishing Vessel Owners Association, P. O. Box 838, 51 Ninth Street, Astoria, Ore.—President, George Moskovita; Managing Secretary, A. H. Wright.

Pacific Coast Purse Seiners Association, Pier 59, Seattle 1, Wash.—President, E. L. Haarager.

E. L. Haarager

N. Mladinich

Purse Seine Vessel Owners Association, 5301 North Ruby St., Tacoma, Wash. — Secretary, Nick Mladinich.

San Francisco Purse Seine Boat Owners Association, 350 Jefferson St., San Francisco 11, Calif.—President, Guiseppe Torrente; Vice-President, Frank Gandolfo.

Southern California Fishermen's Association, 418 Harbor Lane, San Diego, Calif.—President, Victor Nigro; Vice President, J. Oliveri; secretary - treasurer, C. J. Alexander.

Victor Nigro

FISHERMEN and CANNERY UNIONS

Alaska Fishermen's Union, Maritime Hall Building, 49 Clay St., San Francisco 11, Calif.—Secretary-Treasurer, Abe Lehto. (Branches at Portland, Ore.; Seattle, Wash.; Bellingham, Wash.; Ketchikan, Anchorage, Seldovia and Dillingham, Alaska.)

Abe Lehto

Cannery Workers and Farm Laborers' Union, P. O. Box 3102, 221 Second Ave., Seattle, Wash.—President, Ray A. Cabanilla; Secretary, Prudencio Mori.

Cannery Workers & Fishermen's Union, 640 State St., San Diego 1, Calif. — Secretary-Treasurer, Lester Balinger.

James Waugh

Cannery Workers Union of the Pacific, A. F. of L,. 450 Seaside Ave., Terminal Island, Calif.— President, James Waugh.

Columbia River Fishermen's Protective Union, Box 142, Astoria, Ore.—R. G. Bristow; Secretary, Henry Niemela.

H. Niemela

Pacific Fisheries Organizations

(Data as of Jan. 1, 1949)

Cordova District Fishermen's Union, P. O. Box 939, Cordova, Alaska—Executive Secretary, H. J. Lannen. Seattle office, 84 Union St., John Wood, Representative.

Deep Sea Fishermen's Federal Union of B. C., P. O. Box 249, Prince Rupert, B. C. — President, John Synes; Secretary, George Anderson.

Harold Grotle

Deep Sea Fishermen's Union of the Pacific, 5215 Ballard Ave., Seattle, Wash.—Secretary-Treasurer, Harold Grotle; Seattle Agent, Carl Ness; Ketchikan Agent, Helge Pedersen; Juneau Agent, Milton Nyman; Petersburg Agent, Walter A. Lersten.

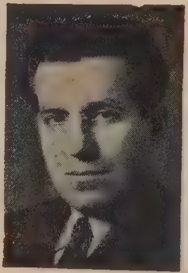
Fish Cannery Workers' Union of the Pacific, (San Francisco Bay Area) 257 5th St., Richmond, Calif.—Secretary-Treasurer, W. J. Gray.

W. J. Gray

Guy Alston

Fish Reduction and Saltery Workers, Local 7, 404 Bay Bldg., Seattle, Wash. — Secretary-Treasurer, Guy Alston.

LaConner Fishermen's Cooperative Association, LaConner, Wash.—President, Ray McNeil; Secretary-Manager, William Alvord.



J. F. Jurich

International Fishermen & Allied Workers of America, C. I. O., 4124 Arcade Building, Seattle 1, Wash. — President, J. F. Jurich; Vice-President, Oscar Anderson; Secretary-Treasurer, Jeff Kibre.

Locals and Affiliates—

Alaska Fishermen's Union, 49 Clay St., San Francisco, Calif.—Abe Lehto, Secretary-Treasurer.

Alaska Fishermen's Union, 84 Union St., Seattle, Wash.—Hans A. Hansen, Agent.

Columbia River Fishermen's Protective Union, Box 142, Astoria, Ore.—Henry Niemela, Secretary.

IFAWA Local 34, 2907 Jones St., San Francisco, Calif.—Walter Lucas, Secretary.

IFAWA Local 33, Berth 73, Fishermen's Wharf, San Pedro, Calif.—Gilbert Zafran, Business Agent.

IFAWA Local 7, 84 Union St., Seattle, Wash. — Winnie Thompson, Secretary.

IFAWA Local 53, Pier 59, Seattle, Wash.— Nick Kulgis, Secretary.

IFAWA Local 61, P. O. Box 944, Newport, Ore. — President, Robert Ripa; Vice-President, Uno Pykonen; Secretary-Treasurer, Richard Pitts.

IFAWA Local 100, Box 2956, Juneau, Alaska—John Olofson, Secretary.

Westward Alaska Fisheries Council, 223 Central Bldg., Anchorage, Alaska—John Wiese, President.

R. McKay

United Fishermen's Cooperative Association, 2195 Commissioner St., Vancouver, B. C.—President, R. McKay; General Manager and Secretary, Karl Dybhavn.

Monterey Cannery Workers Union, A. F. of L., Monterey, Calif.—President, Joseph Perry; Secretary-Treasurer, Roy Humbracht; Business Agent, Lester Caveny.

Prince Rupert Fishermen's Cooperative Association, P. O. Box 1580, Prince Rupert, B. C.—President, A. Martinusen; Secretary, K. F. Harding.

Seine and Line Fishermen's Union of Monterey, 233 Alvarado St., Monterey, Calif.—President, Thos. P. Flores; Secretary-Business Agent, John Crivello.

Seine and Line Fishermen's Union, A. F. of L., San Pedro, Calif. —John Calise, temporary agent.

United Alaska Fishermen & Cannery Workers Union, A. F. of L., Sitka, Alaska — President, William Walton, Sitka; Vice-Presidents, Patrick J. Paul, Angoon, and Walter Austin, Petersburg; Secretary, Peter C. Nielsen, Sitka.

United Fishermen of Alaska, A. F. of L., P. O. Box 47, Kodiak, Alaska —President, W. A. Cannon; Secretary, P. J. Kerrigan.

United Trollers of Alaska, Juneau, Alaska—Secretary, Andy Barlow.

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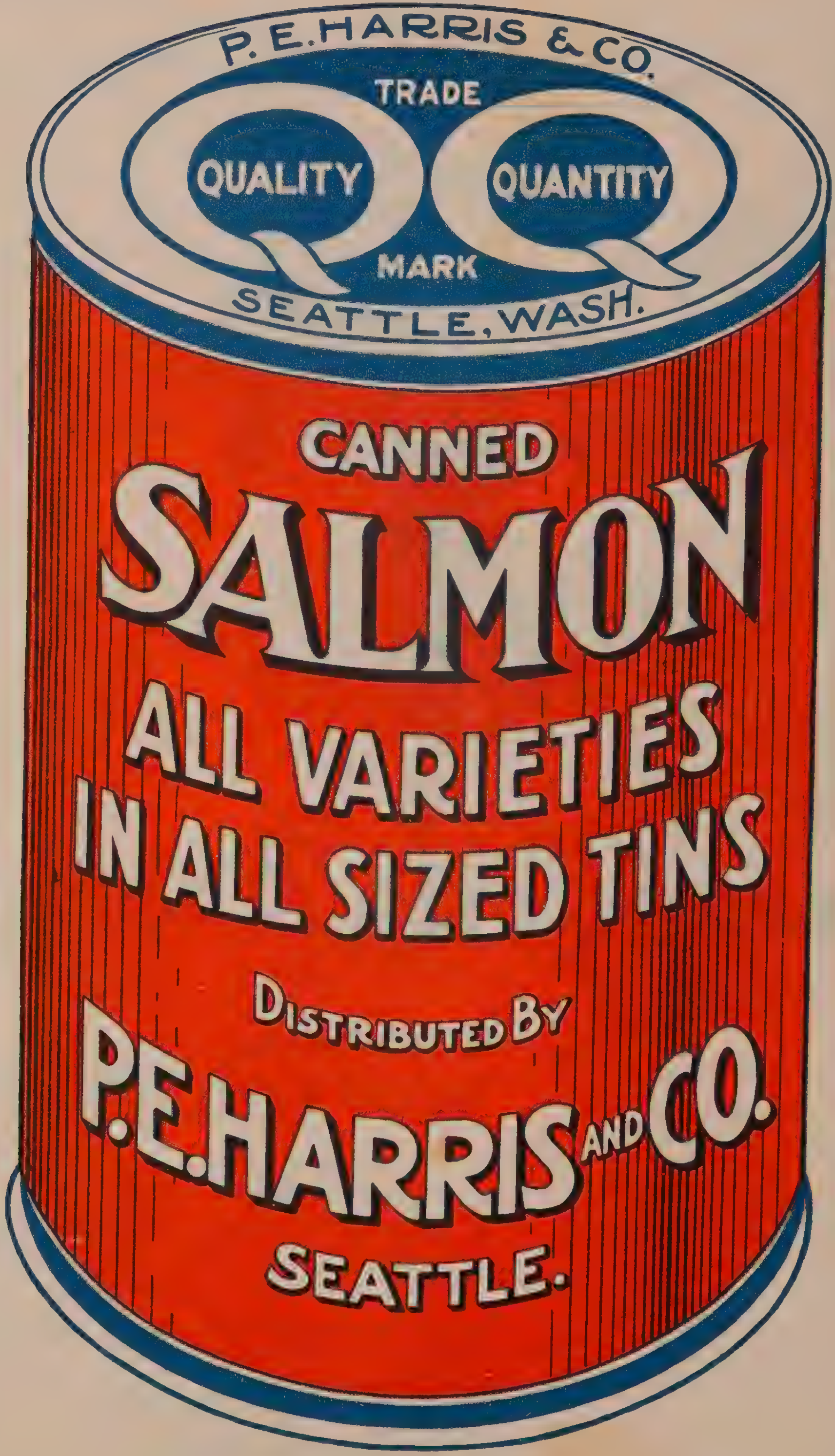
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OPERATING PLANTS IN ALASKA:

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Extreme shortage of Pinks and relative abundance of Chums were outstanding features of the 1948 salmon season. Reds also declined in comparison with 1947, though Cohoes made a notable increase.

Total output fell below the previous year in all major districts, but Puget Sound made a remarkable pack for an "off year."

Every salmon canning region of North America last year fell short of its 1947 production, and the grand total, though 4½% ahead of the low mark of 1946, was with that exception the smallest in 27 years.

Compared with 1947 the over-all shortage was 976,457 cases or 13.7%. The drop was mostly in Pinks, which went down 1,332,078 cases or 45%, though Reds and Sockeyes also fell 203,056 cases or 9%. All other species, however, were above average, with a gain in Chums of 424,069 cases or 37½%, and of 146,003 cases or 33⅓% in Cohoes.

Important factors in the general shortage were the "off-year" for Pinks and Sockeyes in Puget Sound and southern British Columbia waters; serious failure of runs in several Alaska areas; adverse weather and labor troubles in various parts of Alaska, and the great flood on the Columbia River.

Pinks at New Low

Considering United States data alone, the total drop was 785,652 cases or 14%, with Pinks down 1,054,380 cases or 44.6% and a decline of 177,193 cases or 9¼% in Reds and Sockeyes, though the latter held above the recent average. While Kings were ahead in Alaska, their total fell 14,503 cases or 4%.

Of the Pink shortage, more than 630,000 cases or 60% is accounted for by the "off-year" on Puget Sound, which left Alaska practically the only source of this species; and the Alaska run in general was extremely light, giving the United States only 845,184 cases more than in 1921.

Alaska Red runs failed badly in several important areas, and were a disappointment on Bristol Bay; while Puget Sound Sockeyes, though remarkable for this cycle, came to only a fraction of the "big-year" pack.

Chums and Cohoes Gain

Chums and Cohoes both reached the highest point in six years, with an increase over 1947 of 388,140 cases or nearly 60% in Chums and 77,552 cases or 26½% in Cohoes. Chums were well ahead in almost all areas of Alaska and on the Columbia, while Puget Sound made a remarkable pack—though probably about two-thirds of it was from British Columbia fish.

Cohoes took a big jump in Southeast Alaska, and in the States were far above average, though short of the previous year—bringing the total to about 30% above the recent average. Alaska Kings gained slightly, making the best pack in 11 years.

Some Districts Make Notable Output

The only major area of Alaska making a notably good pack was Cook Inlet, though the Ugashik sector of Bristol Bay also made a remarkable showing. Poorest results were registered in the Copper River-Prince William Sound, South Peninsula and Kodiak areas and the northern part of Southeast Alaska.

For an "off-year" in both Pinks and Sockeyes, Puget Sound made the best record in many years. With Chums from British Columbia, its output was the fourth-largest in history for any corresponding year of the cycle.

1948 -- SUMMARY OF CANNED SALMON PACK -- 1948

District	Red, Sockeye or Blueback	Pink	Chum	Medium Red, Coho, Silver	King or Chinook	Steelhead Trout	TOTAL Full Cases
Alaska	1,635,463	1,304,044	774,661	241,414	54,645	385	4,010,612
Puget Sound	91,268	4,645	245,133	70,659	27,043	....	438,748
Columbia River	3,339	....	26,201	39,425	235,310	19,977	324,252
U.S. Coast Areas	4,021	....	8,642	19,112	21,625	....	53,400
TOTAL U. S.	1,734,091	1,308,689	1,054,637	370,610	338,623	20,362	4,827,012
British Columbia	260,050	321,514	496,928	213,480	16,251	5,686	1,313,909
GRAND TOTAL	1,994,141	1,630,203	1,551,565	584,090	354,874	26,048	6,140,921

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Cook Inlet and the Ugashik section of Bristol Bay were the only really bright spots in Alaska salmon canning, though the Ketchikan district made a fair showing. The season was a failure in the balance of Southeast Alaska, and in the Cordova and South Peninsula areas.

Red production, though above the recent average, was a great disappointment. Chums were about normal, with exceptional packs at some points; and Cohoes and Kings did notably well. Pinks, however, fell seriously short in most areas, making the smallest total in 27 years.

Alaska's canned salmon output, totaling just over 4,000,000 cases, slipped back from the 1947 figure by almost 300,000 cases or 7%. It was 39,512 cases above the 1946 pack—but except for that and the failures of 1927 and 1921, was the smallest in 35 years.

This occurred despite excellent production of Chums, Cohoes and Kings, and a Red pack better than the recent average. The shortage was more than accounted for by Pinks, which fell to a new low—419,573 cases or 24.3% down from the previous year—falling 110,712 cases below even the 1927 figure to the smallest since 1921.

Reds dropped 240,776 cases or nearly 13% from the previous year's pack, but stood 569,565 cases above 1946.

Chums jumped 274,451 cases or almost 55% over 1947, making the best pack in four years; but were still a bit short of the ten-year average. Cohoes gained 93,084 cases or 62% with the largest output since 1942; while Kings, with a slight further increase, reached the highest figure in 11 years.

Reds made up almost 41% of the total, against 43.6% in 1947. Pinks dropped to 32.6% from 40%, while Chums advanced from 11.6% to

UNITED STATES CANNED SALMON PACK—1918 TO 1948

YEAR	RED OR SOCKEYE	PINK	CHUM OR KETA	MEDIUM RED COHO OR SILVERSIDE	KING OR CHINOOK	STEELHEAD	Grand Total	YEAR
1918	2,711,251	2,425,500	1,677,416	647,020	589,786	25,170	**8,076,143**	1918
1919	1,338,401	2,079,775	1,995,446	593,182	664,844	19,899	**6,630,347**	1919
1920	1,541,286	1,618,103	1,090,103	251,533	586,749	13,659	**5,101,705**	1920
1921	1,870,396	845,184	288,539	238,595	369,756	10,142	**3,622,612**	1921
1922	2,181,197	1,659,781	650,079	491,643	313,992	24,983	**5,231,675**	1922
1923	1,974,495	2,930,985	702,536	415,084	362,660	25,997	**6,411,757**	1923
1924	1,533,237	2,619,013	1,266,654	418,336	378,218	29,862	**6,245,320**	1924
1925	1,187,784	2,659,144	1,214,304	477,159	481,071	14,859	**6,034,321**	1925
1926	2,218,638	3,334,787	1,067,053	429,942	408,136	33,128	**7,491,684**	1926
1927	1,430,116	1,993,679	656,911	459,209	481,914	31,643	**5,053,472**	1927
1928	2,010,956	2,791,061	1,302,422	445,496	335,907	16,605	**6,902,447**	1928
1929	1,819,469	3,298,127	1,115,924	367,847	358,085	24,104	**6,983,556**	1929
1930	1,232,340	3,154,364	683,451	566,250	390,756	16,932	**6,044,093**	1930
1931	1,792,111	3,684,092	615,441	285,930	390,563	12,355	**6,780,492**	1931
1932	2,200,104	2,118,250	1,006,776	257,735	318,770	13,218	**5,914,853**	1932
1933	2,321,784	2,726,783	727,917	243,055	323,176	18,027	**6,360,742**	1933
1934	2,876,981	3,825,898	849,721	371,521	322,968	14,901	**8,361,990**	1934
1935	882,408	3,624,148	893,612	364,625	257,773	14,888	**6,037,454**	1935
1936	2,553,160	4,590,422	1,249,188	287,224	283,941	19,282	**8,983,217**	1936
1937	2,168,528	3,947,271	786,397	236,708	369,725	17,568	**7 526,197**	1937
1938	2,677,723	3,222,559	845,433	294,257	218,989	15,248	**7,274,209**	1938
1939	2,020,200	2,791,790	668,274	227,143	238,827	25,293	**5,971,527**	1939
1940	1,040,241	2,910,972	919,368	375,668	269,217	33,436	**5,548,902**	1940
1941	1,308,740	4,790,573	851,902	440,653	372,624	33,162	**7,779,654**	1941
1942	1,194,985	2,819,501	1,089,555	406,032	320,531	21,911	**5,852,515**	1942
1943	2,004,204	2,384,186	895,265	191,135	185,340	16,261	**5,676,391**	1943
1944	1 618,729	2,087,621	987,382	202,364	203,761	19,222	**5,119,079**	1944
1945	1,227,162	2,549,848	693,803	239,086	181,367	19,314	**4,910,580**	1945
1946	1,350,629	2,060.243	694,728	217,004	222,744	17,767	**4,563,115**	1946
1947	1,911,284	2,363,069	666,497	293,058	356,665	22,091	**5,612.664**	1947
1948	1,734,091	1,308,689	1,054,637	370,610	338,623	20,362	**4,827,012**	1948
Average	**1,635,389**	**2,798,036**	**831,220**	**288,640**	**257,006**	**22,370**	5,830,863	**Average**

"Average" is for ten years **prior** to 1948.

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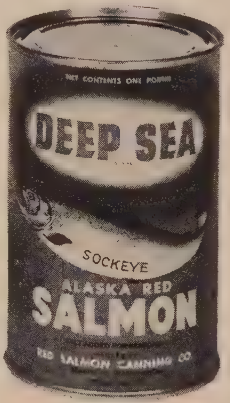
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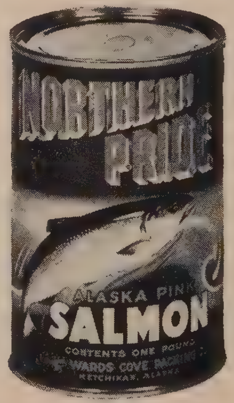
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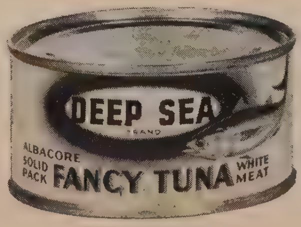
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DATA ON BRISTOL BAY OPERATIONS

YEAR	Number of Canneries Operated	Canning Lines in Operation	Number of Other Operations	Total Boats Fishing Salmon	Total Set Nets Fishing	Total Fathoms of Gear Operated	Number of Salmon Caught	Canned Salmon Pack (Full Cases)	Number of Salmon Used for Other Purposes than Canning (or Shipped Uncanned)	YEAR
1930.....	25	114	4	868	113	168,975	4,405,378	405,892	62,334	1930
1935.....	8	15½	3	181	169	35,600	3,116,493	245,047	75,140	1935
1936.....	23	91	8	1,102	410	170,900	21,051,695	1,450,856	164,996	1936
1937.....	22	83	7	1,086	313	166,750	21,282,098	1,459,450	107,068	1937
1938.....	17	67	....	1,006	189	160,350	25,295,927	1,834,436	(None)	1938
1939.....	22	96	2	1,219	268	196,250	14,300,806	1,154,921	7,644	1939
1940.....	8	36	11	503	233	87,100	5,318,481	446,513	136,507	1940
1941.....	16	50	3	791	225	129,900	6,958,140	642,977	30,472	1941
1942.....	6	12	....	224	65	36,850	6,732,502	469,024	(None)	1942
1943.....	11	33	....	633	158	102,850	17,749,837	1,320,286	(None)	1943
1944.....	12	35	1	655	187	106,780	11,957,230	982,802	8,840	1944
1945.....	8	17	7	316	207	58,250	7,978,607	644,072	68,546	1945
1946.....	16	42	11	777	215	126,150	8,406,905	682,180	175,951	1946
1947.....	17	49	7	928	340	142,064	18,937,386	1,376,722	130,655	1947
1948.....	20	59	2	1,053	403	178,730	15,156,876	1,316,168	66,492	1948

NOTE:—Data in this table compiled by U. S. Fish & Wildlife Service. Figures for boats and gear included those used in connection with salteries and freezers. The data are for the Bristol Bay area, including the Nushagak, Kvichak, Naknek, Egegik and Ugashik sections, but **not** the Yukon-Kuskokwim, Port Heiden, Herendeen Bay nor Port Moller districts.

19.3%, and Cohoes from 3.4% to 6%; Kings remaining at 1.3%.

All Major Districts Make Light Packs

Western Alaska Reds dropped 72,543 cases or 5.4%, though the pack was the third-largest in ten years; while Chums in that district gained 35,911 cases or 83½%, with a pack exceeded only six times in past history. Cohoes also made an exceptional pack, while Kings were about normal.

Central Alaska fell short in Reds, Pinks and Cohoes, making the smallest total in 23 years—down 478,960 cases or 26½% from 1947. Reds dropped 151,418 cases or 32.4%; Pinks, 616,822 cases or 40%, with very slight declines in Cohoes and Kings. Chums, however, made the best pack in three years with an increase of 95,246 cases or almost 50%.

Southeast Alaska made a total gain of 224,410 cases or 20% over 1947, with a very slight increase in Pinks and large packs of Chums and Cohoes, though Reds fell below 50,000 cases for the first time on record. Except for the previous year, however, the Pink pack and the total were the smallest since 1927.

Bristol Bay Production Is Disappointing

A big year in Reds was expected on BRISTOL BAY, corresponding to the cycle-year 1943. Packers looked for a sharp increase over 1947; but the Red output (not counting considerable fish shipped to canneries in other areas) fell 96,316 cases or 7¼% short of the previous year and 69,086 below 1943. Aside from those years, however, it was the largest since 1938.

Chums increased 30,255 cases or 86½%, making the third-largest pack on record. About the usual small number of Pinks for an even-year were canned; Cohoes were unusually numerous, due to fall packing by two canneries; while Kings were about in line with 1947. Reds made nearly 94%, and Chums 5%, of this area's total.

Three more canneries and ten more lines operated than in 1947, with a substantial increase in boats and gear. The disappointing returns resulted partly from delay at the start, when the run was very heavy; partly from exceptionally bad weather, which caused the death of at least 5 fishermen and considerable loss of boats, gear and fish, as well as fishing time; and partly from special restrictions, with only 19½ full 24-hour fishing days on the Nushagak, Kvichak and Egegik, 17 on the Naknek and 20 on the Ugashik.

Operations Delayed

Labor controversies greatly delayed the departure of personnel for Bristol Bay, and all hands except cannery workers again went by air. Tenders were tied up until May 29, and fishermen did not start north until June 24, the day before the opening, so that full operation was held up several days.

Fish prices took another jump to 32c each for Reds and Cohoes; 10c for Pinks; 18c for Chums and $1.50 for Kings.

The early Red run was one of the greatest in history, but fishing was interrupted by heavy storms, and slacked off about July 10; though catches held up unusually well in the latter part of the season.

Most notable was the run to the Ugashik, which not only gave that section a record pack but provided substantial quantities shipped to other districts. The Egegik also had an exceptional run, and the Nushagak was well ahead of the year before; but the Kvichak-Naknek sector, greatest source of Bristol Bay fish, fell down rather badly.

The Yukon King pack fell considerably below the previous year, while the Port Moller section, also in Western Alaska, gained some 20,000 cases—largely with fish from the Ugashik—making a substantial increase in all species.

Big Pack on Cook Inlet

COOK INLET was the only bright spot in Central Alaska—and, except some minor Bristol Bay sections, in the entire territory. Its total, surpassing 1947 by 94,243 cases or 44½%, has been exceeded only in 1936, 1940 and 1944. Kings increased slightly to a new high record. Cohoes fell a little below average, but Chums, at nearly double the previous year's figure, almost equaled the record of 1942. Reds increased 32,569 cases or almost one-third; Pinks, 44,904 cases or 150%. The Red pack has been surpassed only five times; that of Pinks, only in 1940 and 1944.

Somewhat more might have been packed but for trouble between rival unions, which hampered preparations at the start and caused some interruption in mid-season. A price

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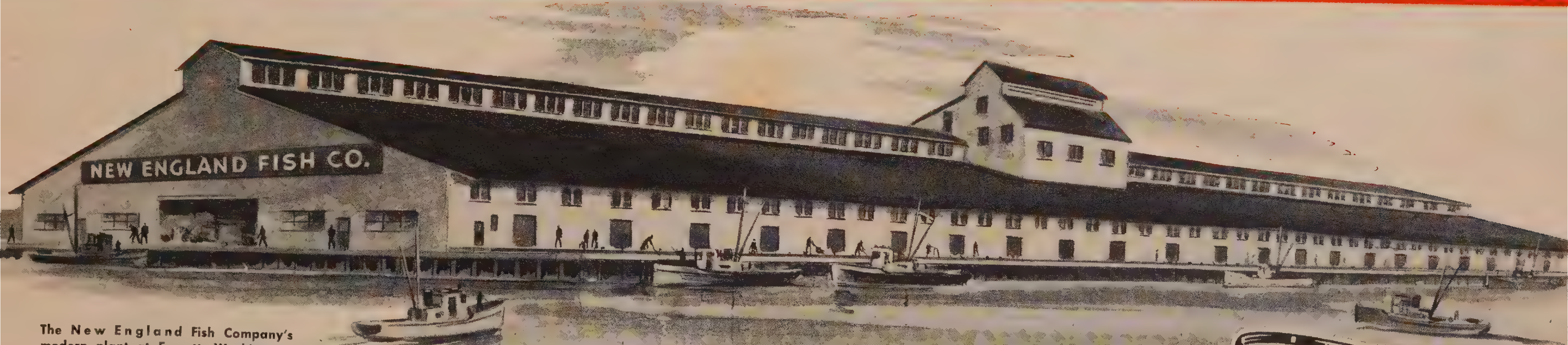
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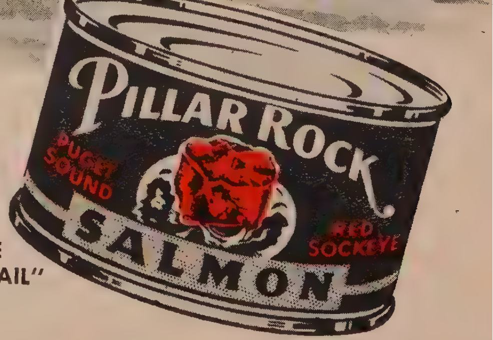

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agreement set Reds at 62c each in the south and 58c in the north.

The South Peninsula area, which in 1936 packed over a million cases, had the worst season in its history, both in production and in weather conditions, for which it is notorious. Its output shrank 119,747 cases or 42% in total; Reds came to less than 30%, and Pinks less than 55%, of the 1947 figures, both making much the smallest packs on record. Chums also dropped a little, but were up to the recent average.

Labor troubles retarded preparations and prevented the setting of some gear, and through the Red and Pink season a succession of southeast gales held the fish off shore, greatly damaged traps and interrupted brailing and seining. Some improvement toward the close permitted fair catches of Chums.

Big Drop at Chignik

Chignik's Red run fell from record proportions to far below normal, making less than one-fourth of the 1947 pack; but this was partly balanced by canning of Pinks and Chums from outlying waters. The Chum pack was a record, and that of Pinks was second only to that ot 1937, being more than double the 1947 figure. This gave the area almost a normal total, but 64,738 cases or 36% down from the previous year.

As in 1947, a good many Kodiak boats went to Chignik and some fish were diverted. The consequent intensive fishing and failure of the Red run resulted in closing much of the time from late June until the final shut-down in early August.

Because of evidence of over-fishing in the Kodiak area, closed waters were greatly extended and the opening date set much later. Then bad weather hampered fishing; and, though the Karluk run was described as the best in years, both Karluk and Red River districts were closed through much of the normal season.

Reds were fairly plentiful, however, from mid-July to the August closure, and finally yielded the best pack in three years—11,418 cases ahead of 1947—though somewhat below average. Pinks, however, with "off-year" in southern sections,

Pack of Canned Salmon in Alaska, 1896 to 1948, by Species

Salmon canning in Alaska commenced in 1878, but no segregation of the packs by species is available prior to 1896; while the valuations were not recorded prior to 1905. Earlier total packs, starting with 8,159 cases in 1878, ranged from 6,539 cases in 1880 to a peak of 801,400 in 1891; the output in 1895 being 626,530 cases. The average from the beginning through 1895 was 291,973 cases.

The Average" figures at bottom of table are for the last ten years. Values are based on opening prices, or on prices at which the bulk of the packs were sold.

Year	Red, Sockeye		Pink		Chum		Coho		King		Total		Year
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1896	806,010	....	111,986	....	452	....	37,017	....	11,242	....	966,707	....	1896
1897	688,581	....	157,711	....	1,396	....	43,557	....	17,833	....	909,070	....	1897
1898	782,941	....	109,399	....	5,184	....	54,711	....	12,862	....	965,097	....	1898
1899	864,254	....	149,159	....	1,931	....	39,402	....	23,400	....	1,078,146	....	1899
1900	1,197,406	....	232,022	....	30,012	....	50,984	....	37,715	....	1,548,139	....	1900
1901	1,319,335	....	541,427	....	47,464	....	65,509	....	43,069	....	2,016,804	....	1901
1902	1,685,546	....	549,602	....	159,849	....	82,723	....	59,104	....	2,536,824	....	1902
1903	1,687,244	....	355,799	....	35,052	....	120,506	....	47,609	....	2,246,210	....	1903
1904	1,505,548	....	299,333	....	21,178	....	85,741	....	41,956	....	1,953,756	....	1904
1905	1,574,428	$5,335,547	168,579	$498,194	41,972	$113,056	67,394	$215,875	42,125	$141,999	1,894,516	$6,304,671	1905
1906	1,475,961	5,620,875	348,875	1,046,951	254,812	730,235	109,141	382,109	30,834	116,222	2,219,044	7,896,392	1906
1907	1,295,113	5,915,227	561,973	1,799,290	184,173	547,757	85,190	337,384	43,424	181,718	2,169,873	8,781,366	1907
1908	1,651,770	7,524,251	644,133	1,733,379	218,513	554,197	68,827	274,089	23,730	99,867	2,606,973	10,185,783	1908
1909	1,705,302	7,610,550	464,873	1,114,839	120,712	274,110	56,556	231,029	48,034	207,624	2,305,477	9,438,151	1909
1910	1,450,267	7,774,390	554,322	1,764,055	254,218	773,409	114,026	559,666	40,221	214,802	2,413,054	11,086,322	1910
1911	1,320,705	8,552,512	1,021,356	4,493,966	303,823	1,215,692	120,704	752,283	45,378	363,024	2,820,966	16,198,833	1911
1912	1,904,258	10,776,987	1,303,365	3,410,928	638,528	1,600,444	170,384	791,023	52,594	310,847	4,060,129	16,890,229	1912
1913	1,964,379	9,136,616	1,402,916	3,687,446	267,654	623,424	77,377	271,078	34,167	140,914	3,746,914	13,859,478	1913
1914	2,201,574	12,482,110	997,823	3,600,075	662,478	2,260,614	157,792	735,219	48,165	281,924	4,067,832	19,719,942	1914
1915	1,922,296	11,907,202	1,870,373	5,619,436	484,408	1,356,469	126,570	588,903	85,694	458,000	4,489,341	19,930,010	1915
1916	2,119,442	13,147,994	1,753,546	6,446,168	715,238	2,434,627	265,184	1,430,143	66,179	364,496	4,919,589	23,823,428	1916
1917	2,484,881	29,058,778	2,298,466	15,120,419	877,713	5,375,713	193,708	1,634,600	67,552	660,868	5,922,320	51,850,017	1917
1918	2,618,559	25,313,837	2,418,212	16,142,604	1,366,859	8,756,598	216,572	2,068,784	57,367	596,000	6,677,569	52,877,823	1918
1919	1,265,543	17,143,017	1,657,434	14,982,542	1,348,462	9,450,772	230,229	2,809,310	90,533	1,131,662	4,592,201	45,552,714	1919
1920	1,475,780	19,851,816	1,613,434	9,751,845	1,022,708	4,712,575	192,311	1,579,963	91,276	1,154,013	4,395,509	37,050,212	1920
1921	1,758,794	16,539,177	440,471	1,938,263	247,606	990,424	109,783	649,480	48,319	352,699	2,604,699	20,470,043	1921
1922	2,075,397	19,719,158	1,657,556	7,709,011	562,496	2,369,396	174,312	949,312	31,604	258,799	4,501,428	31,006,027	1922
1923	1,878,330	17,727,572	2,455,136	12,337,580	527,145	2,542,759	163,752	957,439	38,977	344,078	5,063,340	33,909,428	1923
1924	1,449,724	14,840,946	2,613,068	13,191,793	1,027,183	4,931,172	182,207	1,312,969	33,741	304,809	5,305,923	34,581,689	1924
1925	1,065,290	15,243,243	2,105,240	11,473,271	1,065,395	4,701,847	164,199	1,702,243	50,774	682,235	4,450,898	33,802,839	1925
1926	2,157,087	21,328,739	3,338,349	17,987,527	902,443	4,518,929	202,527	1,700,563	52,476	544,247	6,652,882	46,080,005	1926
1927	1,320,563	16,880,670	1,414,756	8,638,551	507,641	2,761,638	252,629	2,307,569	70,438	853,100	3,566,072	31,441,534	1927
1928	1,944,061	18,902,050	2,785,464	18,512,649	991,504	564,567	297,886	2,140,685	51,195	505,017	6,070,110	45,624,968	1928
1929	1,693,050	19,388,299	2,570,506	15,551,647	860,876	4,659,754	172,070	1,302,887	73,740	769,869	5,370,242	41,672,456	1929
1930	848,787	11,172,854	3,150,652	12,773,894	596,000	2,162,306	329,988	3,011,505	63,560	764,254	4,988,987	29,884,813	1930
1931	1,695,782	16,161,532	2,978,512	10,226,769	536,909	1,726,203	170,208	1,119,332	51,124	462,800	5,432,535	29,696,636	1931
1932	2,104,727	10,803,982	2,116,573	6,368,695	821,128	2,301,408	149,351	606,798	68,709	368,522	5,260,488	20,449,405	1932
1933	2,182,371	14,649,771	2,183,443	10,498,358	658,245	3,028,584	161,633	884,276	41,006	345,310	5,226,698	29,406,294	1933
1934	2,626,002	17,687,617	3,822,602	15,349,445	735,055	2,651,538	235,560	1,197,000	51,367	155,230	7,470,586	37,040,830	1934
1935	823,175	7,216,754	3,254,528	13,767,517	852,730	3,414,160	188,918	1,263,479	36,475	348,024	5,155,826	26,009,934	1935
1936	2,482,555	19,648,482	4,589,270	18,430,508	1,106,983	4,094,532	218,232	1,453,566	57,908	452,125	8,454,948	44,079,213	1936
1937	2,101,154	21,590,206	3,619,298	18,151,343	729,114	3,507,933	135,078	1,096,905	69,394	682,031	6,654,038	45,028,418	1937
1938	2,523,123	19,663,910	3,222,104	12,350,571	786,859	2,848,266	216,732	1,342,715	42,726	341,788	6,791,544	36,547,250	1938
1939	1,971,338	18,560,539	2,509,519	12,656,697	626,412	2,905,286	103,156	708,013	28,036	280,036	5,239,211	35,110,571	1939
1940	953,381	9,402,841	2,908,025	15,770,772	860,539	4,312,766	284,130	2,122,330	22,303	219,742	5,028,378	31,828,451	1940
1941	1,164,888	15,952,391	4,636,649	32,593,271	710,507	4,844,060	356,213	3,595,982	38,246	480,998	6,906,503	57,466,702	1941
1942	912,006	13,804,764	2,818,650	22,565,374	942,789	7,178,696	372,537	4,442,108	43,127	686,567	5,089,109	48,677,509	1942
1943	1,982,175	30,381,755	2,322,057	18,701,467	882,578	6,755,829	158,734	1,937,981	50,965	802,162	5,396,509	58,579,194	1943
1944	1,580,757	24,254,327	2,087,322	16,924,966	985,725	7,565,526	187,053	2,278,938	36,939	584,787	4,877,796	51,608,544	1944
1945	1,173,356	18,260,328	2,239,282	18,201,352	688,485	5,312,578	195,860	2,078,066	41,709	676,640	4,338,692	44,528,964	1945
1946	1,065,898	22,880,873	2,057,121	24,685,452	617,155	7,120,923	193,061	3,231,992	37,874	748,321	3,971,109	58,667,561	1946
1947	1,876,239	45,390,823	1,723,617	32,269,419	500,211	8,983,297	148,715	3,522,434	53,684	1,131,912	4,302,466	91,297,885	1947
1948	1,635,463	44,994,233	1,304,044	31,617,066	774,661	16,345,475	241,799	6,278,595	54,645	1,459,245	4,010,612	100,694,614	1948
Avg.	**1,431,550**	**24,388,287**	**2,330,224**	**22,598,583**	**758,906**	**7,132,443**	**224,125**	**3,019,643**	**40,752**	**707,041**	**4,916,038**	**57,845,999**	**Avg.**

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made the smallest pack in many years—down 192,261 cases or 40% from the previous year. Chums, on the other hand, set a new high record, four times the 1947 figure. The abundance of Chums failed to balance the shortage of Pinks, making the total short of 1947 by 113,576 cases or 18.6%.

Flat Failure in Cordova District

Both PRINCE WILLIAM SOUND and COPPER RIVER areas experienced one of the worst failures in their history; the latter making the smallest total on record, and the Sound the smallest since 1939, with the poorest Pink pack in its history and that of Chums the lowest in five years.

The Prince William opening was set ten days later than in the cycle-year 1946, and only 14 days' fishing was permitted; and the Pink and Chum run at most points was very light. Reds were exceptionally numerous, but form but a small part of the pack in this area. The Pink pack of 123,243 cases was less than one-third of the previous year's, while Chums dropped 19,637 cases or 30%.

Copper River fishing was delayed till the end of May by labor controversy, losing fully ten days of the season, which was further curtailed by a new 24-hour midweek closure. The Red run appears to have been very light: at least fish were scarce from the time packing started, with a drop in output of 16,814 or over 50% from 1947.

Kings also made one of the lightest packs on record—much of the catch being sold fresh; but the fall Coho season was about normal, with an increase of 6,533 cases.

Cordova district fish prices (independent gear) were set at 75c each for Reds, $2.55 for Kings, 25c for Pinks, 60c Cohoes and 30c Chums. Because of adverse conditions, the bulk of the pack there was made through joint operations.

Southeast Alaska Shows Slight Gain

Despite serious handicaps and almost complete failure in some districts, Southeast Alaska as a whole made a slight recovery from the previous year's low point; but its output was still the smallest, except for 1947, since the failure of twenty years before.

Its Red pack, down 16,715 cases, was the smallest in history. Pinks gained 3,279 cases over the previous year, and were only 102,244 cases or less than 20% above the 1927 figure. Chums, however, made the best pack in four years, with an increase of 143,293 cases or 55%; and Cohoes made a pack almost 2½ times that of 1947, reaching the highest point since 1942—well above average.

Closure of the area until Aug. 9, and again from the 15th to the 23rd, left only about three weeks of fishing — cutting out much of the Red fishing, and in the north eliminating a great part of the Pink and Chum production.

The northern districts had no real run of Pinks at any time, and made but a poor showing in Chums—though the latter outnumbered Pinks everywhere from Wrangell north, and were unusually abundant in the Southern and South Wales districts. Most sections also showed an excellent run of Cohoes.

Big Pink Run in South

A heavy Pink run, however, appeared Aug. 23 in West Coast, Dixon Entrance and Clarence Strait waters, and continued strong to the close Sept. 7. This was accompanied by a violent storm which interrupted fishing and damaged many traps; a second storm Aug. 30 destroyed more than half the traps; and a third broke just before the close.

Between storms, however, both seine and trap catches were very heavy, keeping canneries running near capacity most of the time and leaving them with enough for a day or two of packing after the season—besides providing a number of boatloads shipped to Puget Sound.

This gave the Ketchikan and South Wales districts Pink packs which compare fairly well with the recent average, though far short of the better packs of former years; and the Southern district made one of the largest Chum packs in its history.

Pinks in general ran around 21 to the case. A price of 37½c each was agreed on, but advanced toward the close to as high as 50c at Ketchikan canneries, with Chums ranging from 90c up to around $1.45.

The fall pack of 26,218 cases (mostly Chums, but including over 6,000 Cohoes) was rather disappointing, but exceeded that of 1947 by about 42%; and at the start of the season a good many Chums were shipped to Puget Sound canneries.

1948--RECAPITULATION OF ALASKA CANNED SALMON PACK--1948

DISTRICT	RED OR SOCKEYE				PINK			CHUM				MEDIUM RED OR COHO				KING OR CHINOOK				Grand Total (Full Cases)
	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	
Western Alaska	1,205,967	30,991	40,550	1,277,508	3,250	....	3,250	78,281	....	444	78,725	7,491	....	16	7,507	2,251	1,984	9,663	13,898	**1,380,888**
Central Alaska	217,064	8,940	92,634	318,638	601,651	15,171	616,822	265,350	4,640	21,987	291,977	55,994	1,590	11,675	69,259	23,139	357	11,278	34,774	**1,331,470**
Southeast Alaska	18,736	....	20,581	39,317	645,808	38,164	683,972	389,913	....	14,046	403,959	130,318	....	34,715	†165,033	2,680	....	3,293	5,973	**1,298,254**
Total	**1,441,767**	**39,931**	**153,765**	**1,635,463**	**1,250,709**	**53,335**	**1,304,044**	**733,544**	**4,640**	**36,477**	**774,661**	**193,803**	**1,590**	**46,406**	**241,799**	**28,070**	**2,341**	**24,234**	**54,645**	**4,010,612**

† Included with Southeast Alaska Cohoes are Steelheads, 364 cases 1-lb. Talls and 21 full cases ½-lb. Flats.

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1948 – CENTRAL ALASKA CANNED SALMON PACK – 1948

	Company	Cannery Location	Red or Sockeye				Pink			Chum			Coho			King or Chinook			Grand Total (Full Cases)	
			1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total		
1	Alaska Pacific Salmon Co.	Sand Point			3,992	3,992	18,043	886	18,929	13,421		13,421	999		999	59		59	37,400	1
2	Alaska Packers Association	Chignik	12,937		3,391	16,328	33,337		33,337	21,078		21,078	76		76	59		59	70,878	2
		Karluk	2,744		6,792	9,536	33,993		33,993	12,095		12,095				19		19	55,643	
		Alitak (a)	1,999			1,999	5,528		5,528	964		964	15		15				8,506	
3	Alaska Seldovia Packers, Inc	Seldovia	16,261		2,125	18,386	15,494	803	16,297	10,105	307	10,412	2,537	64	2,601	6,562		6,562	54,258	3
4	Alaska Shell Fish, Inc	Seldovia			1,194	1,194		683	683		286	286		136	136		513	513	2,812	4
5	Alaska Year Round Canneries	Seldovia	4,930		3,053	7,983	9,866	2	9,868	2,956	6	2,962	1,672	713	2,385	7,647	282	7,929	31,127	5
6	Aurora Packing Co	Cordova			35	35		12	12		59	59		106	106				212	6
7	B. & G. Packing Co	Seldovia *			54	54		130	130										184	7
8	Cape Douglas Canning Corp	S. Pen. & Kodiak Areas (fl*)	117			117	5,418		5,418	1,806		1,806	154		154				7,495	8
9	Chignik Fisheries Co	Chignik	14,897			14,897	13,475		13,475	9,930		9,930	1		1				38,303	9
10	Cook Inlet Packing Co	Seldovia	3,594			3,594	5,473		5,473	9		9	1,141		1,141	2,824		2,824	13,041	10
11	Copper River Cooperative Co	Copper R. Flats and Eshamy Bay (fl.)			8,022	8,022		519	519		219	219		42	42		72	72	8,874	11
12	Copper River Packing Co	Port Nellie Juan	2,916			2,916	24,094		24,094	4,918		4,918	465		465				32,393	12
13	Cordova Packing Co	Cordova			275	275													275	13
14	Crystal Falls Fish Co	Cordova	822		98	920	159		159	121		121	1,437		1,437	2	25	27	2,664	14
15	Dayville Packing Co	Dayville	1,440			1,440	7,248		7,248	3,520		3,520	26		26				12,234	15
16	Ellamar Packing Co	Ellamar	246			246	8,422		8,422	6,148		6,148	170		170				14,986	16
17	Emard Packing Co	Anchorage	17,616		1,068	18,684	3,623		3,623	8,980		8,980	6,504		6,504	197	8,324	8,521	46,312	17
18	Fidalgo Island Packing Co	Port Graham	17,039			17,039	14,341		14,341	2,561		2,561	1,383		1,383	1,653		1,653	36,977	18
19	General Fish Co	Anchorage	8,888			8,888	5,526		5,526	6,925		6,925	4,249		4,249	54		54	25,642	19
20	Gilbert Packing Co	Cordova	94		1,029	1,123	3,015	79	3,094	1,215		1,215	724	846	1,570		66	66	7,068	20
21	Grimes Packing Co	Ouzinkie	6,584			6,584	18,325		18,325	10,473		10,473	687		687	32		32	36,101	21
22	G. P. Halferty & Co	Cordova	193		2,096	2,289	6,148	161	6,309	2,473		2,473	3,069	750	3,819		135	135	15,025	22
23	P. E. Harris & Co	False Pass	9,360	457		9,817	13,865		13,865	(b) 33,248		33,248	750		750	(c) 28		28	57,708	23
24	Homer Spit Packing Co	Homer			121	121		115	115					19	19		13	13	268	24
25	Island Seafood Co	Kodiak (fl.)*			19	19		542	542		245	245		546	546				1,352	25
26	Kadiak Fisheries Co	Port Bailey	9,558		3,542	13,100	61,400	721	62,121	15,686		15,686	491	33	524	119		119	91,550	26
		Shearwater Bay	4,195			4,195	15,511		15,511	4,596		4,596	36		36				24,338	
27	R. A. Kester & Associates	Snug Harbor (fl.)			720	720		38	38		83	83		637	637		66	66	1,544	27
28	Wm. C. King	Kodiak (fl.)*					72		72	18		18	25		25				115	28
29	Libby, McNeill & Libby	Kenai & Moser Bay	24,149		16,508	40,657	31,407		31,407	2,967		2,967	4,477		4,477	3,397		3,397	82,905	29
30	Mainland Fisheries, Inc	Kukak Bay *	190			190	2,384	2,294	4,678	2,239	818	3,057					950	950	8,875	30
31	New England Fish Co	Orca	950		4,185	5,135	19,866		19,866	10,144		10,144	10,524		10,524		499	499	46,168	31
32	Ocean Fresh Seafoods Co	Cordova *	142		317	459	732		732	388		388	236		236	60	50	110	1,925	32
33	Orcas Canning Corporation	Carmel (d)	7,530			7,530	14,876		14,876	3,866		3,866	8		8	16		16	26,296	33
34	Pacific American Fisheries, Inc	King Cove, Squaw Harbor, Chignik, Alitak & Snug Harbor (e)	9,376	6,172	16,634	32,182	45,955	723	46,678	(f) 21,010	14,858	35,868	(f) 2,730	116	2,846	(f) 375		375	117,949	34
35	Parks Canning Co., Inc	Uyak	1,667		12,088	13,755	24,051	905	24,956	5,313		5,313							44,024	35
36	C. B. Parks & Sons (g)	Cordova	91		993	1,084	2,916	76	2,992	1,173		1,173	1,008	1,475	2,483		64	64	7,796	36
37	H. M. Parks Co., Inc	Cordova			426	426		4,163	4,163		2,870	2,870	1,049	1,769	2,818		17	17	10,294	37
38	Peninsula Packers	False Pass, Kupreanof & Uyak (fl.)	2,089			2,089	2,775		2,775	2,671		2,671	1		1				7,536	38
39	Polar Sea Foods, Inc	Kasilof	524			524	103		103	25		25	121		121	32		32	805	39
40	Port Ashton Packing Corp	Port Ashton	1,308			1,308	14,729		14,729	2,556		2,556	275		275				18,868	40
41	Port Chatham Packing Co	Portlock			231	231		1,461	1,461		1,855	1,855					9	9	3,556	41
42	Resurrection Bay Co	Seward	262			262	2,555		2,555	820		820	1,030		1,030				4,667	42
43	San Juan Fishing & Packing Co	Uganik Bay	4,685			4,685	32,498		32,498	11,098		11,098	310		310				48,591	43
		Port San Juan	2,065			2,065	17,522		17,522	4,802		4,802	1,082		1,082				25,471	
44	Seater Packing Co	Boulder Point	56			56							12		12	32		32	100	44
45	Seaview Canning Co	Kenai *	450			450	80		80				260		260				790	45
46	Snug Harbor Packing Co	Chisik Island	8,395	2,311		10,706	3,057		3,057	504		504	(h) 2,016		2,016	(h) 301		301	16,584	46
47	Standard Salmon Co	Valdez *	168			168	2,063		2,063	962		962	45		45				3,238	47
48	Uganik Fisheries, Inc	Uganik Bay	2,488			2,488	19,133		19,133	4,391		4,391	233		233				26,245	48
49	Washington Fish & Oyster Co	Port Williams	1,161			1,161	14,520		14,520	6,801		6,801	418		418				22,900	49
50	Western Fisheries Co	Cordova	274		2,978	3,252	8,745	229	8,983	3,519		3,519	3,021	4,423	7,444		192	192	23,390	50
51	West Point Canning Co	Uganik Bay (i)			648	648		629	629		381	381					1	1	1,659	51
52	Whitney & Co	Kenai (j)	7,809			7,809	1,286		1,286	779		779	1,126		1,126	28		28	11,028	52
53	Whiz Fish Products Co	Kodiak (k)	4,805			4,805	18,013		18,013	10,716		10,716	991		991				34,525	53
	TOTAL		**217,064**	**8,940**	**92,634**	**318,638**	**601,651**	**15,171**	**616,822**	**269,990**	**21,987**	**291,977**	**57,584**	**11,675**	**69,259**	**23,496**	**11,278**	**34,774**	**1,331,470**	

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* New Cannery. (fl) Indicates floating cannery.

(a) Alaska Packers Association's share from joint operation with Pacific American Fisheries, Inc. (b) Includes fall Chums packed jointly in Pacific American cannery, King Cove. (c) Includes 24 cases in 1-lb. Flats.

(d) Canned in joint operation in Kadiak Fisheries' cannery, Port Bailey. (e) Pack of Pacific American Fisheries, Inc., is shown in detail on another page. (f) Pacific American pack includes 1-lb. Flats, tabulated in Tall columns, as follows: Chums, 4,640 cases; Cohoes, 1,019 cases; Kings, 162 cases.

(g) Formerly James W. Parks & Sons. (h) Snug Harbor Packing Co.'s pack includes 1-lb. Flats in 1-lb. Tall columns as follows: Cohoes, 571 cases; Kings, 171 cases. (i) Formerly operated by Mrs. Josie Sandvik. (j) Formerly operated by Kenai Packing Co. (k) Formerly operated by Frank McConaghy & Co.

SINCE 1895

KELLEY-CLARKE COMPANY

AMERICAN BUILDING • SEATTLE 4

Selling Agents

ALL VARIETIES

CANNED SALMON

▼

HAWAIIAN TUNA

1948 — PACIFIC CANNED SALMON PACK — 1948

District	Red or Sockeye				Pink			Chum or Keta				Medium Red, Coho or Silver				Chinook or King				Steelhead Trout			Grand Total (Full Cases)
	1-Lb. Talls	1-Lb. Flats	½-Lb. and ¼-Lb. Flats (48 lbs.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. and 4-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. and 4-Lb. Flats	½-Lb. and ¼-Lb. Flats (48 lbs.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. and ¼-Lb. Flats (48 lbs.)	Total	1-Lb. Talls	½-Lb. and ¼-Lb. Flats (48 lbs.)	Total	
Alaska	1,441,767	39,931	153,765	1,635,463	1,250,709	53,335	1,304,044	733,544	4,640	36,477	774,661	193,439	1,590	46,385	241,414	28,070	2,341	24,234	54,645	364	21	385	4,010,612
Puget Sound	1,110		90,158	91,268	1,852	2,793	4,645	225,046	2,078	18,009	245,133	17,276	265	53,118	70,659	10,113	8	16,922	27,043				438,748
Columbia River			3,339	3,339				21,132		5,069	26,201	11,060		28,365	39,425	17,728	15,888	201,694	235,310	3,949	16,028	19,977	324,252
Minor Coastal Areas			4,021	4,021				8,142		500	8,642	8,139		10,973	19,112	1,761		19,864	21,625				53,400
Total U. S. Pack	**1,442,877**	**39,931**	**251,283**	**1,734,091**	**1,252,561**	**56,128**	**1,308,689**	**987,864**	**6,718**	**60,055**	**1,054,637**	**229,914**	**1,855**	**138,841**	**370,610**	**57,672**	**18,237**	**262,714**	**338,623**	**4,313**	**16,049**	**20,362**	**4,827,012**
British Columbia				260,050			321,514				**496,928**				213,480				16,251			5,686	**1,313,909**
Total Nor. America				**1,994,141**			**1,630,203**				**1,551,565**				**584,090**				**354,874**			**26,048**	**6,140,921**

NOTE: -British Columbia statistics, obtained from official sources, are preliminary only, subject to later correction. Only the totals for the various species in British Columbia are available, without segregation as to style of package.

A few 4-lb. Flats, 12 to the case, are included with 1-Lb. Flats in the Puget Sound and Columbia River packs; on the Sound, 2,078cases of Chums, 265 Cohoes and 8 Chinooks; on the Columbia, 304 cases of fancy Chinooks.

Such Ovals as were canned are included with 1-lb. or ½-lb. Flats.

Quarter-pound cans, reduced to the basis of 48 lbs. to the case, are included with Halves, as follows: Puget Sound, Sockeys, 5,769 full cases; Pinks, 13; Chums, 119; Cohoes, 2,283; Chinooks, 67; Columbia River—Chinooks, 2,687; Bluebacks, 453; Silvers, 7,497; Steelheads, 588—Oregon Coast, Chinooks, 6,143 full cases; Silvers, 7,497; California, Chinooks, 33 full cases.

1948 — WESTERN ALASKA CANNED SALMON PACK — 1948

	Company	Cannery Location	Red				Pink	Chum	Coho	King or Chinook			Grand Total (Full Cases)	
			1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Talls	1-Lb. Talls	1-Lb. Talls	½-Lb. Flats	Total		
1	Alaska Packers Association	Nushagak	53,711			53,711	768	8,047	684	369		369	63,579	1
		Naknek	110,734			110,734	14	2,758	9	72		72	113,587	
		Kvichak	113,112			113,112		4,008		398		398	117,518	
		Egegik	35,877			35,877		1,626	65	4		4	37,572	
		Ugashik	41,936			41,936		1,429	9	2		2	43,376	
2	Bering Trading Co	Kwiguk (Yukon River)									3,916	3,916	3,916	2
3	Bristol Bay Packing Co.	Dillingham	18,692		7,493	26,185	406	4,300	302	187	8	195	31,388	3
		Pederson Point	61,160	19,593		80,753	37	2,222	13	24		24	83,049	
4	Cape Douglas Canning Corp.	Naknek* (floating)	3,446			3,446		139					3,585	4
5	Columbia River Packers Association, Inc.	Nushagak	18,547		7,560	26,107	408	4,242	301	187		187	31,245	5
		Naknek	68,123			68,123			2,183	67		67	70,373	
6	Egegik Packing Co.	Egegik	17,621		2,082	19,703		684	829				21,216	6
7	Intercoastal Packing Co.	Nornek	48,128			48,128		1,541		48		48	49,717	7
8	Libby, McNeill & Libby	Ekuk, Koggiung, Libbyville and Egegik	212,508			212,508	616	13,938	543	292		292	227,897	8
9	Nakat Packing Corporation	Nakeen	83,735			83,735		3,379		154		154	87,268	9
10	Northern Commercial Co.	Kwiguk (Yukon River)								(d) 1,984		1,984	1,984	10
11	Northland Packing & Processing Co.†	Naknek	3,446			3,446		139					3,585	11
12	Pacific American Fisheries, Inc.	Nushagak, Naknek and Port Moller (a)	128,655	11,398	12,303	152,356	901	(b) 17,516	1,607	204	2,909	3,113	175,493	12
13	Peninsula Packers	Port Moller (floating)	47,242			47,242		5,782	40	193		193	53,257	13
14	Queen Fisheries, Inc.†	Naknek* (floating)	6,201			6,201	100	3,365	897		2,829	2,829	13,392	14
15	Red Salmon Canning Co.	Naknek	91,158			91,158		1,869		48		48	93,075	15
16	L. G. Wingard Packing Co.	Ugashik	41,935			41,935		1,429	9	2		2	43,375	16
17	Win-Ra Fisheries, Inc.	Ugashik (floating)			11,112	11,112		(c) 312	(c) 16		1	1	11,441	17
			1,205,967	**30,991**	**40,550**	**1,277,508**	**3,250**	**78,725**	**7,507**	**4,235**	**9,663**	**13,898**	**1,380,888**	

* New Cannery. † New Company. "fl" indicates "floating cannery."

NOTE:—Joint operations, from which shares of the packs are credited in this tabulation to the respective companies, were conducted as follows:

Alaska Packers Association and Libby, McNeill & Libby, in Egegik plant of Alaska Packers Association; Alaska Packers Association and L. G. Wingard Packing Co., in Ugashik plant of L. G. Wingard Packing Co.; Cape Douglas Canning Corp. and Northland Packing & Processing Co., in floating plant of Cape Douglas Canning Corp.; Bristol Bay Packing Co. and Columbia River Packers Assn., in Nushagak plant of Bristol Bay Packing Co.; Columbia River Packers Assn. and Intercoastal Packing Co., in Naknek plant of Columbia River Packers Assn.

(a) Packs of Pacific American Fisheries, Inc., are shown in detail on another page of this issue. (b) Includes 132 full cases ½-lb. Flats. (c) All ½-lb. Flats, full cases. (d) 1-lb. Flats; all other figures in this column are 1-lb. Talls.

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***Cable Address*—MISKAND**

1948--SOUTHEAST ALASKA CANNED SALMON PACK--1948

	Company	Cannery Location	*Red or Sockeye			Pink			Chum			Coho†			King			Grand Total (Full Cases)	
			1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total		
1	Anchor Fish Co.	Pelican											521	521				521	1
2	Annette Islands Canning Co.	Metlakatla	904		904	49,531		49,531	22,307		22,307	1,985		1,985				74,727	2
3	W. S. Balcom	Metlakatla (a)	173		173	7,999		7,999	3,029		3,029	254		254				11,455	3
4	Binkley Canning Co.	Wrangell		258	258		843	843		1,048	1,048		955	955		37	37	3,141	4
5	Col. Riv. Packers Assn., Inc.	Todd (b)				5,468		5,468	5,137		5,137	1,855		1,855	506		506	12,966	5
6	Douglas Canning Co.	Douglas	3,266	723	3,989	1,353		1,353	2,480		2,480	5,014	1,777	6,791	299	1,529	1,828	16,441	6
7	S. Einstoss	(Custom-canned in various canneries)	17		17	3,368		3,368	6,322		6,322	2,939	2,855	5,794		165	165	15.666	7
8	Farwest Wrangell Co.	Wrangell		3,221	3,221	16,608	4,805	21,413	22,053	67	22,120	25,458	35	25,493	1,718		1,718	73,965	8
9	Fidalgo Island Packing Co.	Ketchikan	592		592	29,972		29,972	9,853		9,853	1,970		1,970				42,387	9
		Pillar Bay (c)	48		48	2,526		2,526	2,440		2,440	405		405	8		8	5,427	
10	Haines Packing Co.	Letnikof Cove		6,044	6,044		19	19		292	292		33	33				6,388	10
11	P. E. Harris & Co.	Hawk Inlet	1,021		1,021	9,263		9,263	10,679		10,679	4,660		4,660	9		9	25,632	11
		Kake (d)	235		235	3,195		3,195	4,483		4,483	1,159		1,159	3		3	9,075	
12	Hydaburg Cooperative Assn.	Rose Inlet (e)	888		888	23,420		23,420	7,605		7,605	1,106		1,106				33,019	12
13	Icy Straits Salmon Co.	Hoonah		502	502	1,041	1,704	2,745	5,640	1,254	6,894		1,239	1,239				11,380	13
14	Indep'td. Salmon Canneries, Inc.	Ketchikan & Sitka	532		532	18,904		18,904	12,122		12,122	5,196	385	5,581				37,139	14
15	Kayler-Dahl Fish Co.	Petersburg		2,653	2,653		8,744	8,744		8,602	8,602		5,330	5,330		1,208	1,208	26,537	15
16	Ketchikan Packing Co.	Ketchikan	1,048		1,048	34,872		34,872	14,417		14,417	3,972		3,972				54,309	16
17	Libby, McNeill & Libby	Yakutat, Taku (f), Craig, Klawock and George Inlet	1,103	3,758	4,861	65,618	6,111	71,729	31,960		31,960	9,617	6,835	16,452		304	304	125,306	17
18	Lutak Fish Co.	Lutak Inlet		443	443		22	22		25	25		8	8		5	5	503	18
19	Nakat Packing Corporation	Waterfall, Ketchikan and Hidden Inlet	1,520	2,390	3,910	122,379	13,079	135,458	50,229	702	50,931	14,173	13,400	27,573				217,872	19
20	New England Fish Co.	Chatham	268		268	4,570		4,570	5,146		5,146	1,003		1,003				10,987	20
		Ketchikan	1,203		1,203	52,037		52,037	48,021		48,021	5,582		5,582				106,843	
		Craig (g)	180		180	21,222		21,222	8,621		8,621	2,495		2,495				32,518	
21	North Pacific Canning Co., Inc.	Scow Bay	153		153	9,046		9,046	6,438		6,438	628		628				16,265	21
22	Oceanic Fisheries Co., Inc. (h)	Port Conclusion & Ketchikan (i)	78	100	178	3,050	374	3,424	2,081		2,081	1,613	1	1,614	8		8	7,305	22
23	Pacific American Fisheries, Inc.	Petersburg, Kasaan, Excursion Inlet and Pillar Bay (j)	1,592	177	1,769	47,939	1,227	49,166	22,442	1,243	23,685	5,844	54	5,898	41		41	80,559	23
24	Peninsula Packers	Icy Strait and Ketchikan (fl.)	161		161	7,343		7,343	6,123		6,123	500		500				14,127	24
25	Pyramid Fisheries Co.	Sitka (k)	200		200	4,841		4,841	6,897	87	6,984	485		485				12,510	25
26	Salt Sea Fisheries	Tenakee Springs	98		98	219		219	964		964	36		36				1,317	26
27	Sebastian-Stuart Fish Co.	Tyee	68		68	5,860		5,860	8,438		8,438	6,699		6,699				21,065	27
28	Smith & Morrow	Sitka		5	5		644	644		619	619		1,269	1,269		45	45	2,582	28
29	Specialty Processors, Inc.	Petersburg		307	307	2,749	592	3,341	4,017	107	4,124	1,243	18	1,261				9,033	29
30	Superior Packing Co.	Tenakee	535		535	4,804		4,804	8,090		8,090	1,161		1,161				14,590	30
31	Todd Packing Co.	Todd	507		507	5,469		5,469	5,137		5,137	1,856		1,856				12,969	31
32	Wards Cove Packing Co.	Ketchikan	1,298		1,298	54,793		54,793	28,652		28,652	5,833		5,833				90,576	32
33	West Coast Salmon Co., Inc. (l)	Klawock	119		119	16,372		16,372	8,071		8,071	534		534				25,096	33
34	Whiz Fish Products Co.	Pelican	745		745	3,360		3,360	4,229		4,229	14,299		14,299	88		88	22,721	34
		Hood Bay	184		184	6,617		6,617	5,790		5,790	744		744				13,335	
	TOTAL		**18,736**	**20,581**	**39,317**	**645.808**	**38,164**	**683,972**	**389,913**	**14,046**	**403,959**	**130,318**	**34,715**	**165,033**	**2,680**	**3,293**	**5,973**	**1,298,254**	

Notes: †A few Steelheads are included with Cohoes.

(a) Canned in plants of Annette Islands Canning Co. and Peninsula Packers.

(b) As the Excursion Inlet cannery was burned April 12, the Columbia River Packers Association's pack for that district was canned in Todd Packing Co.'s plant.

(c) Pillar Bay pack made through joint operation in Pacific American cannery, Petersburg.

(d) Kake fish canned in Hawk Inlet cannery.

(e) Hydaburg cannery burned July 8; fish canned in Rose Inlet plant, leased temporarily from Nakat Packing Corp.

(f) Taku fish canned in joint operation at Chatham plant of New England Fish Co.

(g) Noyes Island fish canned in joint operation at Libby, McNeill & Libby's Craig plant.

(h) Formerly operated as Baranof Canneries, Inc.

(i) Ketchikan fish canned in plant of Independent Salmon Canneries, Inc.

(j) Pack of Pacific American Fisheries, Inc., are tabulated in detail on another page of this issue.

(k) Includes some fish canned in joint operation at Superior Packing Co. plant at Tanakee.

(l) Formerly West Coast Packing Co.

Alaska Canned Salmon Pack by Subdivisions, 1939 to 1948

District and Year	Reds (Cases)	Pinks (Cases)	Chums (Cases)	Cohoes (Cases)	Kings (Cases)	Total (Cases)
Bristol Bay and Yukon (June 25-July 25)—						
1939	1,059,181	....	88,272	....	5,038	1,152,491
1940	402,899	16,081	30,624	1,445	3,504	454,553
1941	577,024	9	50,901	3,436	5,785	637,155
1942	438,053	8,564	16,749	2,638	7,001	473,005
1943	1,275,212	....	37,757	180	11,826	1,324,975
1944	954,694	3,911	31,838	2,408	5,420	998,271
1945	576,318	....	66,888	3,105	9,478	665,789
1946	628,240	4,073	36,436	2,663	10,768	682,180
1947	1,335,031	....	35,802	1,866	13,737	1,386,436
1948	1,236,226	3,158	65,172	3,960	13,504	1,322,020
Average	**848,288**	**3,580**	**46,044**	**2,170**	**8,606**	**909,688**
Alaska Peninsula, North Side (June 20-July 31)—						
1939	56,310	2	6,478	....	465	63,255
1940	56,158	....	4,914	....	79	61,151
1941	36,366	95	4,953	....	179	41,593
1942	....	....	....	....	....	....
1943	39,330	54	3,680	....	56	43,120
1944	31,849	130	12,855	....	21	44,855
1945	32,342	127	25,007	....	22	57,498
1946	27,821	....	1,798	....	167	29,786
1947	25,675	....	6,047	8	71	31,801
1948	38,218	1,838	10,999	873	306	52,234
Average	**31,181**	**419**	**11,341**	**176**	**117**	**43,235**
Alaska Peninsula, South Side (May 27-Aug. 12)—						
1939	149,046	292,203	120,901	9,835	4,483	576,468
1940	88,690	356,969	209,749	18,063	3,330	676,801
1941	97,695	233,438	163,058	17,298	3,008	514,497
1942	56,886	291,392	117,532	10,437	843	477,090
1943	177,000	167,024	70,727	6,657	1,934	423,342
1944	40,585	123,988	82,560	21,108	819	269,060
1945	58,984	140,319	73,752	9,923	1,765	284,743
1946	50,808	89,164	88,544	12,122	688	241,326
1947	83,407	115,916	81,921	4,343	456	286,043
1948	24,243	63,596	75,817	2,463	177	166,296
Average	**51,605**	**106,596**	**80,519**	**9,992**	**781**	**249,494**
Chignik (June 1-Oct. 1)—						
1939	142,770	13,744	6,874	728	377	164,493
1940	27,772	4,083	2,349	20	....	34,224
1941	59,373	16,373	15,345	2,322	316	93,729
1942	56,977	22,962	11,853	1,093	378	93,263
1943	110,086	4,265	4,638	1,924	290	121,203
1944	47,448	29,283	6,221	1,223	442	84,617
1945	18,666	18,381	11,582	638	222	49,489
1946	70,817	39,544	22,049	695	305	133,410
1947	146,788	23,640	5,417	512	111	176,468
1948	33,356	47,117	31,115	67	75	111,730
Average	**63,415**	**31,593**	**15,277**	**627**	**231**	**111,143**
Kodiak Area (June 10-Aug. 11 and Sept. 10-30)—						
1939	115,604	603,492	62,185	9,442	651	791,374
1940	93,751	443,154	60,332	14,246	313	611,796
1941	121,725	508,306	57,368	22,854	638	710,891
1942	83,340	313,711	76,563	10,751	363	484,728
1943	129,105	555,209	41,766	5,682	308	732,070
1944	142,212	335,683	56,035	5,623	183	539,736
1945	154,513	491,346	64,957	5,640	521	716,977
1946	65,810	541,334	37,817	3,982	34	648,977
1947	85,805	494,211	23,133	6,752	27	609,928
1948	97,223	301,950	93,275	3,672	232	496,352
Average	**109,113**	**432,905**	**55,043**	**5,134**	**199**	**602,394**
Cook Inlet (May 20-Aug. 12)—						
1939	183,304	15,570	20,726	13,076	16,554	249,230
1940	129,952	122,437	26,695	46,015	15,995	341,093
1941	90,885	38,235	24,706	31,105	27,448	212,379
1942	98,418	55,722	40,110	61,734	28,617	284,604
1943	102,746	60,540	26,292	23,447	30,963	243,988
1944	156,799	96,694	23,311	25,442	25,668	327,914
1945	118,849	54,370	28,302	28,718	22,420	252,659
1946	105,065	60,101	31,593	35,835	17,191	249,785
1947	106,180	30,073	21,183	34,430	30,718	222,584
1948	133,283	74,977	37,357	28,281	32,570	306,468
Average	**124,035**	**63,243**	**28,349**	**30,541**	**25,713**	**271,882**
Prince William Sound and Resurrection Bay (July 20-Aug. 7)—						
1939	12,390	129,491	28,756	3,858	257	174,752
1940	7,065	521,745	54,001	10,257	182	593,250
1941	7,083	217,007	73,776	6,430	100	304,396
1942	13,289	366,965	82,633	13,703	449	477,039
1943	9,285	511,818	30,620	8,237	2,595	562,555
1944	12,741	416,848	118,159	7,902	158	555,808
1945	17,382	493,482	154,080	4,941	102	669,987
1946	10,432	317,329	76,003	16,037	408	420,209
1947	17,955	380,017	65,018	7,270	180	470,440
1948	18,460	123,243	45,381	4,569	45	191,698
Average	**15,394**	**346,184**	**91,728**	**8,144**	**179**	**461,628**
Copper and Bering River Area (May 1-July 5 and Aug. 10-Sept. 18)—						
1939	52,285	165	4	947	2,192	55,593
1940	37,847	....	....	30,521	1,337	69,705
1941	36,868	559	20	82,563	3,067	123,077
1942	47,849	82	15	84,225	5,262	137,433
1943	57,418	54	....	21,783	4,893	84,148
1944	62,780	....	....	34,949	2,517	100,246
1945	70,744	....	39	41,064	6,037	117,884
1946	45,645	....	....	25,821	7,145	78,611
1947	30,717	....	....	22,231	3,596	56,544
1948	13,903	....	....	28,764	1,284	43,951
Average	**44,758**	....	**8**	**30,566**	**4,116**	**79,447**
Yakutat Area (May 15-Sept. 30)—						
1939	25,463	2,237	47	9,301	1,629	38,677
1940	14,947	4,962	164	27,747	511	48,331
1941	18,624	4,505	566	41,402	799	65,896
1942	11,005	2,465	10	21,513	96	35,089
1943	18,096	1,618	....	12,606	234	32,554
1944	15,386	3,447	3	14,301	789	33,926
1945	18,079	795	105	18,018	576	37,573
1946	4,081	1,939	23	4,056	358	10,457
1947	5,632	1,169	255	4,052	160	11,268
1948	3,585	4,038	498	10,810	305	19,236
Average	**9,353**	**2,278**	**177**	**10,247**	**438**	**22,492**
Cape Fairweather—Dixon Entrance (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)						
1939	169,895	1,473,121	296,057	56,935	812	1,996,820
1940	110,661	1,453,109	485,623	128,333	713	2,178,439
1941	119,235	3,636,256	319,372	152,569	1,005	4,228,437
1942	105,506	1,753,582	596,171	156,409	1,950	2,613,618
1943	67,247	1,036,821	673,692	80,928	1,626	1,860,314
1944	116,922	1,082,648	663,505	74,543	1,008	1,938,626
1945	111,717	1,040,854	266,732	90,687	1,980	1,511,970
1946	54,348	997,975	322,597	88,891	2,058	1,465,869
1947	50,273	679,648	257,689	69,490	3,843	1,060,943
1948	35,856	676,540	399,006	139,713	5,262	1,256,377
Average	**73,823**	**895,533**	**381,906**	**92,665**	**2,830**	**1,446,757**
TOTAL—						
1939	**1,966,248**	**2,530,025**	**630,300**	**104,122**	**32,458**	**5,263,153**
1940	**969,742**	**2,922,540**	**874,451**	**276,647**	**25,963**	**5,069,343**
1941	**1,164,878**	**4,654,783**	**710,065**	**359,979**	**42,345**	**6,932,050**
1942	**911,323**	**2,815,445**	**941,636**	**362,503**	**44,959**	**5,075,866**
1943	**1,985,525**	**2,337,403**	**889,172**	**161,444**	**54,725**	**5,428,269**
1944	**1,581,416**	**2,092,632**	**994,487**	**187,499**	**37,025**	**4,893,059**
1945	**1,177,594**	**2,239,674**	**691,444**	**202,734**	**43,123**	**4,354,569**
1946	**1,063,067**	**2,051,459**	**616,860**	**190,102**	**39,122**	**3,960,610**
1947	**1,887,463**	**1,724,674**	**496,465**	**150,954**	**52,899**	**4,312,455**
1948	**1,634,353**	**1,296,457**	**758,620**	**223,172**	**53,760**	**3,966,362**
Average	**1,468,779**	**1,880,979**	**3,557,876**	**954,461**	**225,929**	**4,297,411**
Icy Strait District* (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)—						
1942	10,964	118,790	44,834	8,311	248	183,147
1943	11,397	60,881	63,985	3,147	124	139,534
1944	21,568	123,896	67,537	3,830	77	216,908
1945	13,827	45,971	25,095	4,789	278	89,960
1946	6,315	26,449	31,376	4,436	60	68,636
1947	6,504	30,952	14,498	3,014	118	55,086
1948	501	2,745	6,893	1,239	....	11,378
Average	**48,715**	**46,003**	**29,080**	**3,462**	**107**	**88,394**
Western District* (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)—						
1942	15,193	339,504	130,855	26,112	71	511,735
1943	16,266	123,318	177,210	9,039	55	325,888
1944	21,771	277,172	191,816	7,384	7	498,150
1945	23,247	109,183	65,431	6,585	19	204,465
1946	14,813	81,192	74,500	6,837	479	177,821
1947	17,718	92,612	57,592	14,658	837	183,417
1948	11,308	54,905	64,803	37,562	555	169,133
Average	**17,771**	**123,013**	**90,828**	**14,605**	**379**	**246,597**
Eastern District* (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)—						
1942	8,139	254,772	74,580	12,108	271	349,870
1943	7,192	93,048	110,912	5,452	799	217,403
1944	10,905	116,501	109,884	5,384	426	243,100
1945	10,168	94,505	29,267	4,010	207	138,157
1946	6,082	29,636	21,480	4,622	122	61,942
1947	5,342	38,272	28,935	3,960	510	77,019
1948	4,240	13,308	15,378	12,542	1,736	47,204
Average	**7,347**	**58,444**	**40,989**	**6,104**	**600**	**113,484**
Wrangell District* (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)—						
1942	22,212	167,742	67,652	42,730	895	301,231
1943	11,618½	120,730	80,696	17,431½	68	230,544
1944	16,065	59,256	66,069	9,024	17	150,431
1945	17,600	118,531	17,603	15,571	101	169,406
1946	6,417	66,258	16,017	18,894	173	107,759
1947	6,226	99,343	23,870	11,315	2,308	143,062
1948	7,260	53,860	55,460	22,799	2,971	142,350
Average	**10,714**	**79,450**	**35,804**	**15,521**	**1,114**	**142,602**
So. Prince of Wales Isl. Dist.* (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)—						
1942	12,091	337,418	96,628	36,901	....	483,038
1943	5,656	162,482	75,217	15,765	15	259,135
1944	7,790	144,209	94,371	18,775	41	265,186
1945	11,217	225,606	43,240	26,200	74	306,337
1946	6,141	203,887	67,452	17,339	1	294,820
1947	4,626	110,324	42,141	12,150	....	169,241
1948	2,886	163,397	64,240	26,125	....	256,648
Average	**6,523**	**169,485**	**62,289**	**20,118**	**23**	**258,446**
Southern District* (Aug. 9-Sept. 3 and Oct. 15-Nov. 15)—						
1942	37,713	533,057	181,262	27,964	344	780,340
1943	23,660	473,156	165,752	29,054	483	692,105
1944	38,465	349,073	132,735	29,147	335	549,755
1945	33,735	418,327	77,829	30,282	591	560,764
1946	16,994	582,377	101,901	34,756	580	736,608
1947	9,279	308,929	88,107	22,049	199	428,563
1948	9,661	388,325	192,232	39,446	....	629,664
Average	**21,627**	**409,406**	**118,561**	**31,136**	**341**	**581,071**

NOTE—Some slight discrepancies will be noted between the above figures, compiled by the U. S. Fish & Wildlife Service, and other tabulations compiled independently by **Pacific Fisherman.** Statistics for 1948 are only preliminary, as reported weekly during the season; those for previous years (except for the subdivisions of Southeast Alaska) are final totals of the packs for each district, as officially published in "Alaska Fisheries and Fur-Seal Industries."

*Figures for these districts of Southeast Alaska are the provisional season totals taken from current records of the Fish & Wildlife Service. Final data for Southeast Alaska are no longer reported by subdivisions.

"**Average**" figures are for 5-year periods except on Bristol Bay, where, since the 5-year average would be misleading, a 10-year period is used.

‘ **Opening and closing dates,** as indicated for the various areas, are for the 1948 season and are of general application only, taking no account of special variations for specific localities or particular types of gear.

Puget Sound, with better local runs than expected and a heavy tonnage from British Columbia and Alaska, made the fourth-largest pack of any corresponding year of its cycle — the Pink run being absent in 1948.

Chums, mainly from British Columbia, reached a figure exceeded only in five years between 1914 and 1919. The Sockeye run was short but productive, and the pack broke all past records for corresponding cycle-years, though far below a "big-year" output.

For an "off year" in Pinks and a traditionally light season for Sockeyes, Puget Sound piled up an amazing total of almost 450,000 cases —the highest figure for any corresponding cycle-year in history except 1900, 1908 and 1916; though this was achieved largely by canning of fish (mainly Chums) from British Columbia and Alaska.

Compared with the big "Pink year" 1947, the output fell off about 455,000 cases or almost half; but Sockeyes as well as Chums showed a sharp increase. As against 1946, when Sockeyes were the main item, it increased 106,288 cases or 32%.

Including fish from other areas, Chums made up over 245,000 cases or 57% of the total, with the largest pack of this species since 1919—increasing about 106,000 cases or 76% over 1947, when British Columbia fish also contributed heavily.

The Fraser River Sockeye run also showed some improvement, and Puget Sound packers obtained much more than their usual share of the catch, making the largest pack of this species on record for any corresponding year—about 2½ times that of the cycle-year 1944, and 12 times the 1947 figure—comprising one-fifth of the year's output. However, some of the pack—perhaps 5,000 cases or more—here tabulated under "Sockeyes" were packed from Reds brought from Alaska.

Cohoes also were unusually plentiful—down a little from the previous season, but otherwise the largest pack in 13 years.

1948 – CANNED SALMON PACK OF COASTAL AREAS – 1948

	Company	Cannery Location	Blueback	Chinook				Silver or Coho			Chum			Grand Total (Full Cases)	
			½-Lb. Flats (8 doz.)	1-Lb. Talls	½-Lb. Flats (8 doz.)	¼-Lb. Cans (48 lbs.)	Total	1-Lb. Talls	½ & ¼-Lb. Flats (48 lbs.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total		
	WASHINGTON														
1	Columbia River Packers Association, Inc.	Aberdeen (a)			38		38		567	567				605	1
2	Dungeness Crab, Inc.	Westport	219		587		587		994	994				1,800	2
3	G. P. Halferty & Co.	Aberdeen	705											705	3
4	Kaakinen Fish Co.	Westport			87		87	279	1,147	1,426				1,513	4
5	Mohawk Packing Co.	Moclips	1,805	564			564	210		210	1,114		1,114	3,693	5
6	Nelson Crab & Oyster Co.	Tokeland							500	500		500	500	*1,000	6
7	Paragon Packing Co.	Hoquiam			529		529							529	7
8	Reuben's Packing Co.	Aberdeen (b)						74		74	750		750	824	8
9	Strand Fisheries Co.	Aberdeen	1,292											1,292	9
10	Washington Fish Co.	Aberdeen						6,156	713	6,869	2,390		2,390	9,259	10
11	West Coast Fish Co.	Aberdeen						1,420		1,420	3,888		3,888	5,308	11
	Total Washington Coast		**4,021**	**564**	**1,241**		**1,805**	**8,139**	**3,921**	**12,060**	**8,142**	**500**	**8,642**	**26,528**	
	OREGON COAST														
1	Yaquina Bay Fish Co.	Newport			1,410	6,143	7,553		(c) 7,052	7,052				**14,605**	1
	CALIFORNIA (d)														
	Various Canneries, Crescent City to San Francisco			1,197	5,256	33	6,486							**6,486**	
	Monterey District				5,781		5,781							**5,781**	
	Total California			**1,197**	**11,037**	**33**	**12,267**							**12,267**	
	Total Washington-Oregon-California Coast		**4,021**	**1,761**	**13,688**	**6,176**	**21,625**	**8,139**	**10,973**	**19,112**	**8,142**	**500**	**8,642**	**53,400**	

NOTES:—(a) Plant formerly owned by Deep Sea Products Co. (b) Plant previously owned by Washington Packing Co.; operated 1947 by Ed Lenss. (c) All in ¼-lb. cans, counted as 48 lbs. net to the case. (d) Details of individual packs in California not available; figures are preliminary compilation of State Fish & Game Commission. Quarters were packed 100 to the case, but are counted on basis of 48 lbs. *Approximate.

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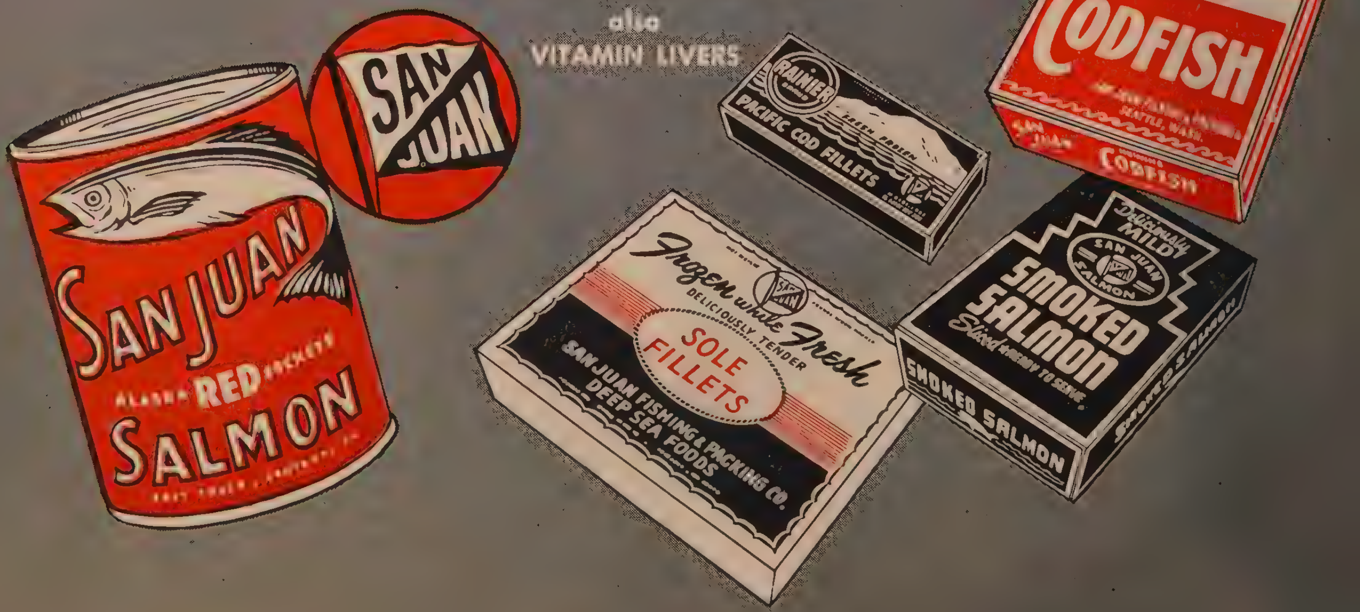
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1948 — PUGET SOUND CANNED SALMON PACK — 1948

	Company	Cannery Location	Sockeye or Red			Pink			Chum			Coho or Silver			Chinook or King			Grand Total (Full Cases)	
			1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. net)	Total		
1	Alaska Packers Association	Semiahmoo		6,851	6,851					2	2		346	346		415	415	**7,614**	1
2	Anacortes Canning Co	Anacortes (a)		5,011	5,011		33	33					20	20		116	116	**5,180**	2
3	P. J. Burk Packing Co	Bellingham		2,268	2,268	37		37	7,812		7,812		306	306				**10,423**	3
4	Columbia River Packers Assn., Inc	Bellingham		11,864	11,864								46	46		278	278	**12,188**	4
5	Dressel-Collins Fish Co	Seattle		2,958	2,958		1,336	1,336		10,544	10,544		7,708	7,708				**22,546**	5
6	Dungeness Crab, Inc	Anacortes		706	706				1,488	299	1,787	247	294	541				**3,034**	6
7	Farwest Fishermen, Inc	Anacortes		8,401	8,401	41	262	303	10,773	778	11,551	233	2,922	3,155		187	187	**23,597**	7
8	Fishermen's Packing Corp	Anacortes		(b) 12,679	12,679		37	37	8,955	820	9,775	11	(b) 6,092	6,103	94	(b) 851	945	**29,539**	8
9	Friday Harbor Canning Co	Friday Harbor	1	3,995	3,996				(c) 2,106	(c) 1,052	3,158	(c) 415	(c) 1,536	1,951	(c) 9	122	131	**9,236**	9
10	H. B. Grader	Anacortes ‡(d)	275		275				1,000		1,000	88		88				**†1,363**	10
11	Haines Oyster Co	Seattle	(e) 550		550	720		720	9,775		9,775	4,712		4,712				**15,757**	11
12	Independent Salmon Canneries, Inc	Seattle (f)										2,379	470	2,849	39	152	191	**3,040**	12
13	Iwersen Canning Co	Point Roberts							1,600		1,600					1,461	1,461	**3,061**	13
14	John C. Jackson, Inc	Friday Harbor		358	358		16	16		687	687		730	730		119	119	**1,910**	14
15	Keller Fishing & Packing Co	Deer Harbor		5,691	5,691	457	1	458	6,231	782	7,013	226	1,162	1,388		290	290	**14,840**	15
16	Nelbro Packing Co	Point Roberts (g)							17,304		17,304				488	2,539	3,027	**20,331**	16
17	New England Fish Co	Everett *	212	3,691	3,903	25		25	28,741	851	29,592	1,505	3,695	5,200	1,262	330	1,592	**40,312**	17
18	Perfection Smokery	Seattle ‡					100	100					(j) 4,600	4,600		(j) 1,300	1,300	**†6,000**	18
19	Point Roberts Fisheries	Point Roberts (h)	63	773	836				8,111	7	8,118	450		450	16		16	**9,420**	19
20	M-S "Reefer King" & Owners	Anacortes & Seattle (f)		(e) 4,031	4,031		10	10	525	10	535					1,990	1,990	**6,566**	20
21	Sea-Pac Company	Bellingham	9	947	956				1,724		1,724	148	125	273				**2,953**	21
22	Sebastian-Stuart Fish Co	Anacortes		3,983	3,983	4	42	46	10,450	45	10,495	10	1,526	1,536		37	37	**16,097**	22
23	Smith Seafoods, Inc	Anacortes (i)		1,448	1,448		13	13		7	7		625	625		23	23	**2,116**	23
24	Washington Fish & Oyster Co	Seattle		1,490	1,490	397	943	1,340	98,166	2,125	100,291	5,537	15,076	20,613	8,213	6,710	14,923	**138,657**	24
25	Whiz Fish Products Co	La Conner		13,013	13,013	171		171	12,363		12,363	1,580	5,839	7,419		2	2	**32,968**	25
	Total		**1,110**	**90,158**	**91,268**	**1,852**	**2,793**	**4,645**	**225,046**	**18,009**	**245,133**	**17,541**	**53,118**	**70,659**	**10,121**	**16,922**	**27,043**	**438,748**	

NOTES:—Most of the Chum pack on Puget Sound, and some of other species, was made from British Columbia fish, and some of various species from Alaska fish—including Reds tabulated with Sockeyes. No distinction is made between Puget Sound fish and that from other sources.

A number of canneries packed considerable salmon on a custom basis for other interests. In general, concerns regularly engaged in salmon canning are credited with all salmon packed for their account; while salmon canned for concerns **not** operating as canners is credited to the plants in which it was packed.

The output of one or two small canneries was not available in time for tabulation and is not included.

(a) Canned through joint operation in Sebastian-Stuart plant. (b) Fishermen's Packing Corp. pack includes Quarters (with Halves, in full cases of 48 lbs.) as follows: Sockeyes, 4,321 cases; Cohoes, 1,643 cases; Chinooks, 44 cases.

(c) Friday Harbor pack includes Quarters (with Halves, full cases): Chums, 112 cases; Cohoes, 24 cases; also 4-lb. cans (with Talls): Chums, 2,078 cases; Cohoes, 265 cases; Chinooks, 8 cases. Some skinned and boned Chinooks, Cohoes and Chums are also included with the regular pack of Halves.

(d) Packing in Chase Packing Co. plant. (e) All Alaska Reds. Most of Haines Oyster Co.'s pack of all species was custom-canned for others.

(f) Custom-canned in plants of other concerns. (g) Canned in plant of Iwersen Canning Co., Pt. Roberts. (h) Includes fish canned in joint operation with Delicacies, Inc.; late December Chum pack estimated.

(i) Smith Seafoods' pack (tabulated as Halves) was all in Quarters, counted 48 lbs. to the case. (j) Pack custom-canned by Perfection Smokery includes Quarters: 4,000 full cases (48 lbs.) Cohoes and 500 full cases Chinooks.

*New Cannery. †All custom-canned for other concerns. ‡Approximate pack.

Fish from Canada, Etc., Are Important Factor

Canning of frozen fish carried over from the previous season was much less of a factor than in 1947, though considerable quantities were canned—mostly Chums, with a few Cohoes—all through the winter and spring, with substantial shipments continuing to come from Canada. Later Puget Sound canneries received some good-sized lots of frozen and iced fish (mostly Reds and Chums, with some Pinks) from various parts of Alaska—Bristol Bay, the Peninsula, and later from the Ketchikan district.

Possibility of canning British Columbia fish on a much larger scale was considered, owing to greater demand and higher prices in United States markets; but this was forestalled by restoration in April of Canada's export embargo on *fresh* Sockeyes, Pinks and Chums, and on Cohoes after Sept. 1. In June this was applied also to *frozen* fish, with exemption of frozen Chums *after* Sept. 1.

Chum Production On Large Scale

It does not appear that any great number of Canadian Springs or Cohoes came in for canning; but as the fall Chum season developed, with exceptional catches and a limited outlet in Canada, a heavy tonnage of this species came over—mostly butchered before freezing.

Actual volume of such imports is not yet known, but—in the light of past performances—it seems fairly certain that at least two-thirds of the year's Chum pack was made from Canadian fish—including that received in the earlier months; and it looks as if something like one-third or more of the season's catch in the south half of British Columbia was canned on Puget Sound. Starting in mid-October, the shipments continued heavy all through November, and kept a few plants in operation until late in the year.

The Puget Sound Chum run developed in late October, and continued quite heavy for about a month to the close, Nov. 19. Fishing was very active, with an exceptionally large seine fleet—swelled by many Alaska boats coming south for fall fishing. The local gillnet fleet also was substantially increased. Fishermen, however, encountered more than usual bad weather, which often interrupted their work. The pack of local Chums is believed to be well above the recent average.

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Large Production Was Unexpected

The 1948 season opened with no hope of large production from local fish. Pinks were absent, and the Sockeye season was restricted following the light cycle-year run of 1944, when only 37,214 cases were packed.

Under the stimulus of high prices, however, some 22 canneries were operated; and the amount of local gear fished was unusually large, with substantial accretions from Alaska as the season advanced.

Opening of the Sockeye season was set at July 18, a month earlier than in 1947; and there was no Cape Flattery seining before that—being prevented by regulation to June 15, while fish prices were not agreed on until July 14. Meanwhile, however, a good many troll Chinooks were canned.

Summer season prices, as stipulated, were: Sockeyes, 25c per lb.; Cohoes, 16c; Chinooks and Pinks, 13c; but, with competitive buying, more was generally paid, with Sockeyes getting up to nearly 30c per lb. Later, 18c on the grounds was agreed on for fall Chums, and packers party to the agreement paid this price all season, though the Chum market slacked off and some fish were delivered at 16c.

Sockeyes Plentiful, But Move Rapidly

After a week or more of scratch fishing, the Sockeye run (mainly of the Chilko brood) showed up July 29 in much greater abundance than was anticipated. Fishing was very intensive, with about three times as many seiners as in 1944; and landings continued fairly heavy through the first week of August. The fish were moving fast through Rosario Strait and Point Roberts waters, and most of them were gone before Aug. 11, when the season was closed—two days ahead of schedule. While catch and pack were excellent for an off year, the returns were spread very thinly because of the number of boats and canneries.

Many seiners then tried Cape Flattery fishing, but found few fish and soon gave it up. "Outside" wa-

PUGET SOUND CANNED SALMON PACK, 1888 TO 1948

Puget Sound salmon canning commenced in 1877 with a pack of 5,500 cases, but no segregation by species is available prior to 1889. From the beginning production increased, with much fluctuation, to 22,000 cases in 1887; the average for intervening years being 7,867 cases. Values shown are based on opening prices. "Average" figures at bottom of table are for ten years prior to 1948.

Year	No. of Plants Operated	Sockeye		Pink		Chum		Coho		Chinook		Steelhead		Total		Year
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	4	......	......	......	......	......	......	......	......	......	......	......	......	21,975	$126,356	1888
1889	2	......	......	2,809	$7,584	1,145	$3,435	7,480	$37,400	240	$1,200	......	......	11,674	49,619	1889
1890	1	......	......	......	......	4,000	12,000	3,000	15,000	1,000	5,000	......	......	8,000	32,000	1890
1891	2	5,538	$24,921	5,647	15,246	3,093	10,825	5,869	19,368	382	2,101	......	......	20,529	72,461	1891
1892	2	2,954	11,816	......	......	16,180	56,630	7,206	24,500	86	473	......	......	26,426	93,419	1892
1893	3	47,852	103,371	17,530	47,331	11,380	31,295	11,812	59,060	1,200	6,480	......	......	89,331	247,537	1893
1894	3	41,781	188,014	9,049	24,432	22,152	60,918	22,418	89,672	......	......	......	......	95,400	363,036	1894
1895	7	65,143	273,108	23,633	62,556	38,785	94,741	50,865	154,218	1,542	7,325	......	......	179,968	591,948	1895
1896	11	72,979	350,299	......	......	26,550	73,013	82,640	264,448	13,495	67,475	......	......	195,664	755,235	1896
1897	12	312,048	1,248,192	57,268	171,804	23,310	64,103	91,900	282,133	9,500	39,045	......	......	494,026	1,805,277	1897
1898	18	252,000	1,058,400	......	......	38,400	105,600	98,600	335,240	11,200	50,624	......	......	400,200	1,549,864	1898
1899	19	499,646	2,368,334	252,733	734,241	31,481	86,427	111,387	418,176	24,364	103,180	......	......	919,611	3,170,358	1899
1900	19	228,704	1,149,000	......	......	89,100	245,025	128,200	512,800	22,350	134,100	......	......	469,450	1,940,925	1900
1901	..	1,105,096	......	275,494	......	......	......	......	......	......	......	......	......	1,380,590	......	1901
1902	21	339,556	2,047,655	......	......	93,492	467,460	85,817	429,085	30,049	150,245	......	......	548,914	3,094,445	1902
1903	22	167,211	1,003,260	181,236	407,984	12,001	30,002	103,450	413,800	14,500	72,500	......	......	478,398	1,929,546	1903
1904	13	123,419	653,871	......	......	49,656	124,254	118,127	447,851	14,441	69,352	......	......	305,643	1,295,328	1904
1905	24	847,122	4,952,718	70,992	212,976	41,057	102,643	79,335	337,174	1,804	9,922	......	......	1,040,310	5,615,433	1905
1906	16	182,241	1,251,236	......	......	149,218	708,781	94,497	472,485	8,139	48,834	......	......	430,602	2,481,336	1906
1907	14	93,122	698,416	433,423	1,300,269	50,249	150,847	119,472	476,288	1,814	16,326	......	......	698,080	2,642,146	1907
1908	22	170,951	1,196,657	6,075	18,225	47,607	142,821	128,922	644,922	95,210	666,470	......	......	448,765	2,669,095	1908
1909	11	1,097,904	6,183,300	370,993	902,342	53,688	128,916	143,133	630,446	13,019	72,604	......	......	1,632,949	7,917,608	1909
1910	24	248,014	1,673,095	108	388	146,942	514,297	162,755	895,153	10,064	60,324	......	......	567,883	3,143,256	1910
1911	15	127,761	1,168,145	1,046,992	4,302,344	104,321	392,122	256,124	1,591,185	21,823	172,582	......	......	1,557,021	7,727,524	1911
1912	20	184,680	1,660,173	700	2,185	60,760	154,193	149,727	761,200	20,252	101,706	......	......	416,125	2,679,457	1912
1913	22	1,673,099	10,871,178	791,886	2,092,401	56,225	124,970	61,019	235,372	1,234	5,247	......	......	2,583,463	13,329,168	1913
1914	31	335,230	3,208,969	892	4,212	278,801	955,920	151,893	759,689	26,044	167,322	......	......	792,860	5,095,839	1914
1915	41	64,584	676,769	583,649	1,795,285	411,724	155,744	180,783	902,335	28,466	145,555	......	......	1,269,206	4,675,418	1915
1916	32	84,637	699,161	1,887	8,264	427,878	1,492,161	155,832	957,650	37,030	280,708	......	......	707,278	3,437,944	1916
1917	45	411,538	5,366,218	1,124,884	7,823,960	216,285	1,362,634	114,276	1,065,983	57,543	540,904	......	......	1,921,554	16,159,699	1917
1918	32	50,723	781,992	6,605	53,336	267,538	1,715,159	235,860	2,532,553	63,366	753,026	106	$1,611	624,198	5,837,677	1918
1919	35	64,346	1,186,413	421,215	3,854,113	525,541	1,687,787	210,883	2,618,504	68,542	829,384	5,076	81,584	1,295,626	12,257,785	1919
1920	11	62,654	1,725,252	4,669	28,860	48,849	3,225,368	24,502	221,688	25,846	370,215	......	......	166,520	2,571,385	1920
1921	23	102,967	1,991,368	404,713	1,870,385	30,831	123,608	89,412	798,541	25,567	199,609	......	......	653,490	4,983,511	1921
1922	16	48,566	945,178	2,225	13,273	65,552	283,395	111,771	744,656	20,615	222,641	......	......	248,729	2,209,143	1922
1923	18	47,402	860,000	475,849	2,429,800	97,081	471,790	122,000	785,000	15,777	150,233	29	174	758,138	4,696,997	1923
1924	12	69,369	1,182,358	5,945	39,192	134,360	651,014	87,879	688,950	19,968	215,019	128	1,024	317,649	2,777,557	1924
1925	23	112,023	2,098,683	553,904	3,179,302	43,345	207,546	173,215	1,902,289	29,061	430,641	122	1,708	911,670	7,820,169	1925
1926	14	44,673	532,408	2,107	15,095	112,204	573,411	123,469	1,163,286	27,859	364,610	113	1,216	310,425	2,650,026	1926
1927	21	97,594	2,115,410	578,923	3,669,941	38,129	225,654	135,802	1,358,020	41,716	587,258	80	1,056	892,244	7,957,339	1927
1928	14	60,081	1,207,981	5,597	41,091	146,356	833,114	89,923	777,472	23,153	291,943	266	2,873	325,376	3,154,024	1928
1929	22	111,898	2,203,496	727,621	4,639,076	156,683	911,584	101,635	1,044,372	33,720	436,181	287	3,597	1,131,844	9,238,306	1929
1930	12	352,194	4,890,921	3,712	18,486	64,234	237,123	122,691	1,240,876	29,378	403,466	397	4,446	572,606	6,795,318	1930
1931	18	83,728	1,316,348	705,580	2,486,377	55,189	177,000	76,025	569,699	28,066	290,579	293	2,443	948,881	4,842,446	1931
1932	10	78,319	897,006	1,677	5,779	146,151	381,116	60,740	330,385	23,964	168,193	60	432	310,911	1,782,912	1932
1933	19	125,738	1,340,000	543,340	2,643,528	37,039	171,742	44,568	292,684	20,869	220,000	222	1,776	771,776	4,669,910	1933
1934	21	340,787	3,632,587	3,296	17,331	72,841	251,991	69,080	517,901	14,089	74,024	......	......	500,093	4,493,834	1934
1935	14	51,714	720,076	369,620	1,652,161	15,636	68,402	70,514	534,956	9,243	91,396	......	......	516,727	3,066,991	1935
1936	9	60,063	813,510	1,152	7,598	86,070	315,465	30,568	292,528	4,708	43,427	......	......	182,561	1,472,528	1936
1937	13	56,983	925,160	327,973	1,676,692	18,759	91,696	31,747	323,976	6,412	76,750	......	......	441,874	3,094,274	1937
1938	13	139,152	1,824,396	455	2,641	7,697	32,193	10,268	100,753	2,371	36,800	......	......	159,943	1,996,783	1938
1939	14	43,561	669,202	282,271	1,574,317	15,080	76,786	54,905	485,760	2,446	33,508	......	......	398,263	2,839,573	1939
1940	9	62,748	1,122,684	2,947	17,432	23,405	114,798	30,654	231,878	1,674	15,734	......	......	121,428	1,502,526	1940
1941	9	110,758	2,140,457	153,924	1,203,657	25,423	187,224	46,213	553,230	4,769	62,354	......	......	341,087	4,146,922	1941
1942	10	258,488	5,255,888	851	7,965	2,223	17,748	6,862	97,693	1,204	26,389	......	......	269,628	5,405,683	1942
1943	10	19,149	424,339	62,129	637,730	243	2,432	26,292	390,847	2,864	12,456	......	......	110,677	1,467,804	1943
1944	3	37,214	830,719	299	3,313	......	......	373	5,883	1,064	21,240	......	......	38,950	861,155	1944
1945	6	53,532	1,176,467	305,245	2,724,176	1,184	12,467	18,802	258,076	3,639	63,511	......	......	382,402	4,234,697	1945
1946	20	271,311	10,108,350	91	2,184	47,099	989,079	7,118	163,714	6,496	259,840	345	8,280	332,460	11,531,447	1946
1947	25	7,516	315,956	639,426	13,423,416	139,131	2,532,194	79,450	2,254,404	29,143	875,098	......	......	894,666	19,401,068	1947
1948	22	91,268	5,005,792	4,645	128,328	245,133	5,558,820	70,659	2,049,606	27,043	903,578	......	......	438,748	13,646,124	1948
Avg..	**12**	**100,342**	**2,386,845**	**144,763**	**1,959,683**	**26,148**	**396,492**	**28,093**	**454,223**	**5,567**	**140,693**	**34**	**828**	**304,950**	**5,338,765**	**Avg..**

FISHERMEN'S PACKING CORPORATION

ANACORTES, WASHINGTON

CANNERS OF PUGET SOUND *Salmon*

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Snowland

COHOE
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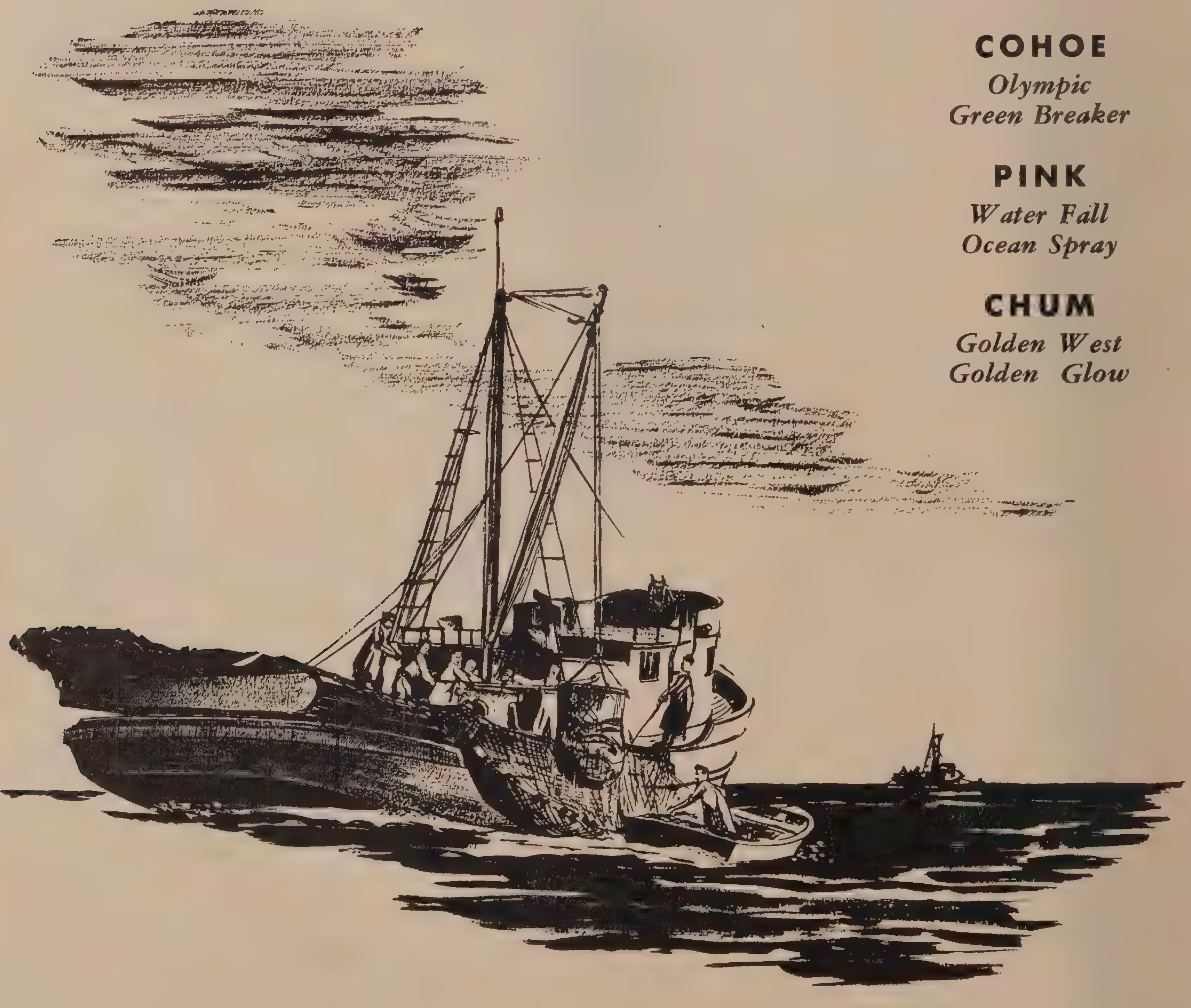
PINK
Water Fall
Ocean Spray

CHUM
Golden West
Golden Glow



OFFICE & CANNERY AT ANACORTES, WASH.

ters in the Sound reopened Sept. 1, but the Sockeyes were gone and little else was caught; and operations lagged until the opening of "inside" waters Oct. 5.

The fall Coho run was slow at the start, but picked up early in October and turned out fairly well, with several weeks of active production—a large part of the catch going into cans. Gillnet catches were an unusually large factor. Most canneries ran through the fall and, as the Chum run developed, added substantially to their output—though the heavy packing of British Columbia Chums was mostly done in a few plants.

Notable factors in the movement of Alaska salmon to Puget Sound canneries were the freezerships *Reefer King* and *Iceland*, though a number of other boats participated. Much of the fish from Alaska and British Columbia, and some from local sources, was "custom-canned"—in large part for interests not regularly engaged in canning.

Columbia River Makes Good Showing in Spite of Flood

Notwithstanding the worst flood on record, which halted operations from mid-May to mid-July, the Columbia River produced slightly more salmon than the recent average, falling only 23,054 cases or 6.6% short of the 1947 total.

Chinooks dropped 15,008 cases; Silvers, 3,364 cases or 7.8%; Steelheads, 2,022 cases. The Blueback pack was negligible, only 22% of the 1947 figure; but Chums increased by 9,080 cases or 53% to the highest point since 1942.

The spring run started well, the first fortnight being about 30% ahead of the previous year; but then all fishing stopped. By July 6, when the season reopened, the flood was subsiding, but debris prevented effective fishing until late in the month, while packers were hampered by damage to buying stations, etc.

The August run, however, started about the first of the month and soon developed to large volume, with continued increase to the close, giving the canneries a capacity run for the last fortnight; and the fall season opened Sept. 10 with the heaviest run of the year, which continued strong for several days. This late activity very nearly made up for the loss of time in spring and early summer.

From mid-September to November operations were desultory, as usual; but the late Chum run turned out better than usual and added substantially to the pack.

A notable feature was the temporary change in seasons, designed to save the Blueback run which, for this cycle, had suffered serious depletion. The summer closed period was changed from May 20-June 10 to June 15-July 6 below Bonneville dam, and June 23-July 14 above, designed to cover the time of the Blueback run; and this action met with hearty cooperation from fishermen, despite the fact that they had heavy investment in Blueback gear. Closure by the flood, however, covered much more time than that prescribed by regulation.

Coastal Areas Fall Short of 1946-47

Production in the coastal areas of Washington, Oregon and California fell short of the previous year by 14,826 cases or 21.8%, though almost even with 1946 and, aside from that, the largest since 1929.

The principal drop was in Quinault Bluebacks on Grays Harbor which, with a very light run, went to one-third of the 1947 figure; but the Blueback pack was otherwise the largest since 1935.

CANNED SALMON PACK OF COASTAL AREAS (WASHINGTON, OREGON, CALIFORNIA), 1919 - 1948

Year	WASHINGTON					OREGON				CALIFORNIA	GRAND TOTAL (Full Cases)	Year
	Blue-Back	Chinook	Silver and Steelhead	Chum and Pink	Total (Full Cases)	Chinook	Silver and Steelhead	Chum	Total (Full Cases)	Total (Full Cases)		
1919	1,244	5,029	17,174	39,995	63,442	26,089	43,114	7,081	76,284	22,766	**162,492**	1919
1920	235	921	405	26	1,587	30,571	4,490	…	35,061	21,055	**57,703**	1920
1921	2,590	2,010	4,897	5,281	14,778	15,632	122	…	15,754	10,376	**40,908**	1921
1922	26,491	2,573	13,354	10,939	53,357	12,270	11,769	2,248	26,287	9,700	**89,344**	1922
1923	10,454	1,794	5,172	38,523	55,943	10,526	22,606	14,279	47,411	6,000	**109,354**	1923
1924	6,778	1,506	5,493	32,760	46,537	16,351	30,449	14,603	61,403	12,936	**120,876**	1924
1925	4,821	3,810	6,679	35,342	53,276	22,404	18,872	14,410	55,686	22,339	**131,301**	1925
1926	2,720	2,441	3,182	17,377	25,720	19,130	7,033	4,838	31,001	11,537	**68,258**	1926
1927	5,260	4,195	1,983	25,452	36,890	17,456	13,390	181	48,619	15,585	**101,094**	1927
1928	2,000	52	415	34,109	37,031	5,411	8,136	5,500	19,047	4,237	**60,515**	1928
1929	4,449	213	1,158	35,699	41,519	4,700	2,313	8,047	15,060	2,774	**59,353**	1929
1930	21,536	49	2,160	11,846	35,519	11,252	981	…	12,233	5,171	**52,995**	1930
1931	8,476	61	501	11,225	20,263	4,234	…	8,600	12,834	12,280	**45,377**	1931
1932	14,263	308	1,152	22,236	37,959	8,524	…	…	8,524	780	**47,263**	1932
1933	6,754	845	424	7,735	15,758	7,150	…	500	7,650	2,149	**25,557**	1933
1934	3,323	2,344	1,453	15,370	22,490	4,100	…	2,000	6,100	820	**29,410**	1934
1935	6,217	3,685	10,009	7,351	27,262	2,500	…	2,400	4,900	874	**33,036**	1935
1936	705	1,137	1,883	16,038	19,763	…	…	9,500	9,500	…	**29,263**	1936
1937	2,865	176	82	7,932	11,055	2,400	…	…	2,400	147	**13,602**	1937
1938	1,559	…	…	13,173	14,732	…	…	…	…	…	**14,732**	1938
1939	…	…	…	6,381	6,381	…	…	2,200	2,200	…	**8,581**	1939
1940	138	23	504	9,142	9,807	647	643	1,000	2,290	…	**12,097**	1940
1941	24	…	…	27,428	27,452	1,000	2,500	5,400	8,900	1,125	**37,477**	1941
1942	1,235	…	…	17,492	18,727	1,450	200	9,000	10,650	…	**29,377**	1942
1943	…	100	402	5	507	1,038	…	…	1,038	767	**2,312**	1943
1944	…	750	161	132	1,043	1,961	2,567	…	4,528	864	**6,435**	1944
1945	…	4,005	2,096	5,287	11,388	…	…	…	…	2,755	**14,143**	1945
1946	3,694	2,398	5,185	17,225	28,502	16,104	4,806	663	21,573	5,034	**55,109**	1946
1947	12,450	3,014	13,023	10,060	38,547	7,383	8,379	…	15,762	13,917	**68,226**	1947
1948	4,021	1,805	12,060	8,642	26,528	7,553	7,052	…	14,605	12,267	**53,400**	1948
Average	**2,156**	**1,209**	**3,343**	**10,179**	**16,888**	**3,713**	**2,614**	**1,826**	**8,154**	**3,672**	**28,715**	**Avg.**

NOTE:—All figures indicate "FULL CASES" on a common basis of 48 lbs. net, equivalent to 96 Halves or 192 Quarters; the bulk of the actual pack being in 1-lb. Talls and ½-lb. Flats.

For some previous years a few Puget Sound Pinks are included with Chums in the Washington Coast pack.

A few Steelheads are sometimes canned in these areas. Where they occur, they are included with Silvers.

The California pack consists almost entirely of Chinooks, but sometimes includes a few Silvers.

Average is for the last ten years.

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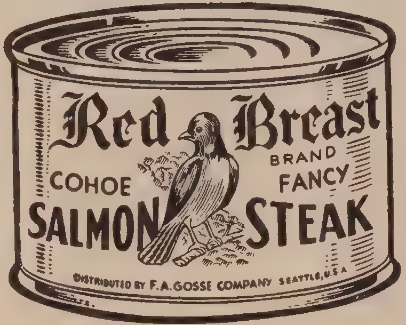
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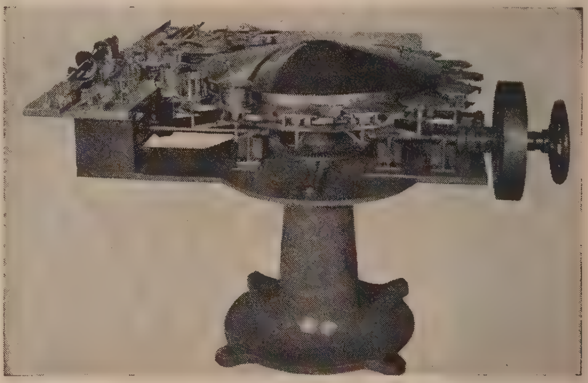

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F. A. GOSSE COMPANY

1800 EXCHANGE BUILDING MA. 0475 SEATTLE 4, WASH.

1948 – COLUMBIA RIVER CANNED SALMON PACK – 1948

	Company	Cannery Location	Chinook							Silverside			Blueback	Chum	Steelhead Trout				Grand Total (Full Cases)	
			Fancy and Choice				Standard and Pale													
			1-Lb. Flats and Talls	½-Lb. Flats (8 doz.)	¼-Lb. Flats (48 lbs. net)	Totals	1-Lb. Talls and Flats	½-Lb. and ¼-Lb. Flats (48 lbs.)	Total	1-Lb. Talls	½-Lb. and ¼-Lb. Flats (48 lbs. net)	Total	½-Lb. and ¼-Lb. Flats (48 lbs. net)	1-Lb. Talls and ½-Lb. Flats (48 lbs. net)	1-Lb. Talls	½-Lb. Flats (8 doz.)	¼-Lb. Flats (48 lbs.)	Total		
1	Barbey Packing Corporation..........	Astoria, Ore........	....	5,833	....	5,833	....	1,938	1,938	....	772	772	....	(b) 1,311	....	1,694	....	1,694	**11,548**	1
2	Chinook Packing Co..................	Chinook, Wash........	....	5,260	....	5,260	....	808	808	....	2,096	2,096	3	2,117	....	....	....	....	**10,284**	2
3	Columbia River Packers Assn., Inc....	Astoria, Ore........	(a) 4,241	68,462	9	72,712	(a) 10,446	(a) 14,819	25,265	4,767	(a) 16,654	21,421	(a) 455	8,520	962	5,806	588	7,356	**135,729**	3
4	Columbia River Salmon Co., Inc......	Astoria, Ore........	....	5,831	1,302	7,133	471	178	649	....	210	210	13	....	....	197	....	197	**8,202**	4
5	Del Mar Canning Co..................	Warrenton, Ore. *........	....	3,972	....	3,972	....	808	808	....	404	404	....	....	....	....	....	....	**5,184**	5
6	Keystone Packing Co.................	Ilwaco, Wash........	....	8,049	....	8,049	....	1,147	1,147	4,018	....	4,018	2,086	1,267	....	....	....	....	**16,567**	6
7	New England Fish Co.................	Astoria, Ore. †........	....	7,860	....	7,860	....	1,688	1,688	....	1,030	1,030	27	....	....	810	....	810	**11,415**	7
8	Paragon Packing Co..................	Astoria, Ore........	(c) 2,289	7,804	....	10,093	2,022	725	2,747	615	....	615	261	88	1,246	559	....	1,805	**15,609**	8
9	Point Adams Packing Co..............	Hammond, Ore........	1,774	10,131	....	11,905	(d) 1,034	2,163	3,197	1,660	1,902	3,562	....	(d) 7,706	56	2,715	....	2,771	**29,141**	9
10	Portland Fish Co....................	Portland, Ore........	....	8,756	....	8,756	....	2,361	2,361	....	1,136	1,136	289	(b) 1,392	....	803	....	803	**14,737**	10
11	Sebastian-Stuart Fish Co............	Astoria, Ore. *........	....	5,370	....	5,370	....	1,023	1,023	....	629	629	....	(b) 1,133	....	41	....	41	**8,196**	11
12	Seufert Brothers Co.................	Seufert, Ore........	(e) 7,886	3,271	....	11,157	630	590	1,220	....	....	....	157	....	1,685	1,529	....	3,214	**15,748**	12
13	Union Fishermen's Co-Op. Pack. Co...	Astoria, Ore........	(f) 870	26,764	1,311	28,945	1,953	3,461	5,414	....	(f) 3,532	3,532	48	(f) 2,667	....	1,286	....	1,286	**41,892**	13
	Total..........................	....	**17,060**	**167,363**	**2,622**	**187,045**	**16,556**	**31,709**	**48,265**	**11,060**	**28,365**	**39,425**	**3,339**	**26,201**	**3,949**	**15,440**	**588**	**19,977**	**324,252**	

Notes:—*Canned salmon on Columbia River for first time. †Pack made through joint operation in Barbey cannery.

(a) Pack of Columbia River Packers Association, Inc., includes: 60 cases fancy Chinooks in talls; 6,063 cases standard Chinooks in 1-lb. Flats; 64 full cases standard Chinooks in Quarters; 5,847 full cases Silvers in Quarters; 453 full cases Bluebacks in Quarters.

(b) All full cases Chums in Halves. (c) Includes 304 cases in 4-lb. Flats. (d) Point Adams pack includes 707 cases standard Chinooks in 1-lb. Flats and 251 full cases Chums in Halves. (e) Includes 7,882 cases fancy Chinooks in 1-lb. Talls.

(f) Union Fishermen's Cooperative Packing Co. pack includes: 587 cases fancy Chinooks in 1-lb. Ovals; 1,650 full cases (48 lbs.) Silvers in Quarters; 982 full cases Chums in Halves.

1948 – Canned Salmon Pack of Pacific American Fisheries, Inc. – 1948

District and Cannery Location	Red or Sockeye				Pink			Chum				Coho				King or Chinook				Grand Total (Full Cases)
	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	
WESTERN ALASKA																				
Nushagak..............................	51,270	....	12,303	63,573	881	....	881	7,480	....	132	7,612	428	....	....	428	26	....	2,909	2,935	**75,429**
Naknek................................	59,083	11,398	....	70,481	19	....	19	2,219	....	....	2,219	....	....	....	....	64	....	....	64	**72,783**
Port Moller...........................	18,302	....	....	18,302	1	....	1	7,685	....	....	7,685	1,179	....	....	1,179	114	....	....	114	**27,281**
Total Western Alaska..............	**128,655**	**11,398**	**12,303**	**152,356**	**901**	....	**901**	**17,384**	....	**132**	**17,516**	**1,607**	....	....	**1,607**	**204**	....	**2,909**	**3,113**	**175,493**
CENTRAL ALASKA																				
King Cove.............................	....	371	4,427	4,798	16,156	34	16,190	6,932	4,640	11,586	23,158	131	451	....	582	22	....	....	22	**44,750**
Squaw Harbor..........................	....	....	3,172	3,172	10,568	655	11,223	6,728	....	2,555	9,283	99	....	116	215	42	....	....	42	**23,935**
Chignik...............................	981	....	....	981	1,548	....	1,548	546	....	....	546	10	....	....	10	20	....	....	20	**3,105**
Alitak................................	....	3,490	9,035	12,525	14,627	34	14,661	1,661	....	717	2,378	26	....	....	26	....	....	....	....	**29,590**
Snug Harbor...........................	8,395	2,311	....	10,706	3,056	....	3,056	503	....	....	503	1,445	568	....	2,013	129	162	......	291	**16,569**
Total Central Alaska..............	**9,376**	**6,172**	**16,634**	**32,182**	**45,955**	**723**	**46,678**	**16,370**	**4,640**	**14,858**	**35,868**	**1,711**	**1,019**	**116**	**2,846**	**213**	**162**	....	**375**	**117,949**
SOUTHEAST ALASKA																				
Petersburg............................	513	....	....	513	6,810	....	6,810	6,721	....	....	6,721	1,924	....	....	1,924	9	....	....	9	**15,977**
Kasaan................................	580	....	177	757	34,921	1,227	36,148	9,563	....	1,243	10,806	1,658	....	54	1,712	....	....	....	....	**49,423**
Excursion Inlet.......................	451	....	....	451	3,682	....	3,682	3,718	....	....	3,718	1,857	....	....	1,857	31	....	....	31	**9,739**
Pillar Bay............................	48	....	....	48	2,526	....	2,526	2,440	....	....	2,440	405	....	....	405	1	....	....	1	**5,420**
Total Southeast Alaska..	**1,592**	....	**177**	**1,769**	**47,939**	**1,227**	**49,166**	**22,442**	....	**1,243**	**23,685**	**5,844**	....	**54**	**5,898**	**41**	....	....	**41**	**80,559**
GRAND TOTAL.......................	**139,623**	**17,570**	**29,114**	**186,307**	**94,795**	**1,950**	**96,745**	**56,196**	**4,640**	**16,233**	**77,069**	**9,162**	**1,019**	**170**	**10,351**	**458**	**162**	**2,909**	**3,529**	**374,001**

Note:—Because of delay in unloading due to the waterfront strike, figures here tabulated for some canneries are preliminary, subject to later revision.

Some of the Pacific American Fisheries' packs were made through joint operation in canneries of other companies, as follows: Chignik, canned in plant of Alaska Packers Association; Snug Harbor, canned in plant of Snug Harbor Packing Co.; Excursion Inlet, canned in Hawk Inlet plant of P. E. Harris & Co.: Pillar Bay fish were canned in the Pacific American Petersburg cannery, which conducted a joint operation with Fidalgo Island Packing Co.; the latter company's share of the output being shown in the general tabulation for Southeast Alaska.

Salmon was also canned in Pacific American plants for other companies, as follows: Squaw Harbor, for Alaska Pacific Salmon Co.; Alitak, for Alaska Packers Association; Kasaan, for Libby, McNeill & Libby.

HARALD SYNNESTVEDT

President, New England Fish Co.
Seattle, Wash.

Director, The Canadian Fishing Co.

Director, National Fisheries Institute

Trustee, Association of Pacific Fisheries

MRS. JEANICE M. WELSH

President, Icy Straits Salmon Co.
Hoonah, Alaska

Believed to be the only woman actively operating her salmon canning company.

Salmon canning in British Columbia was somewhat curtailed, with very light production of both Sockeyes and Pinks in the Fraser River district, although the Naas and Skeena made an excellent showing in both species.

Large quantities of fall Chums were again diverted to Puget Sound, but the run at many points was exceptionally heavy and many more were canned than in any recent year except 1946.

Productive effort on the part of British Columbia salmon canners in 1948 was discouraged by cutting-off the United Kingdom and other export markets, and threat of diversion of raw fish to Puget Sound canneries. The number of active plants fell from 30 to 27, and the total output dropped almost 200,000 cases from the previous year, making the lowest figure since 1944—a quarter-million below average.

The shortage was in Sockeyes and Pinks. Cohoes were about normal, and production of such minor items as Springs, Steelheads and Bluebacks was the best in years; while Chums, gaining 35,129 cases over 1947 and comprising 37.7% of the total output, made the largest pack except for 1946 in the last six years.

Sockeyes Run Ahead Of Cycle-Year 1944

Sockeyes, though down 26,059 cases from the poor 1947 figure, with the smallest pack in four years, made a slight gain over the cycle-year 1944. Production in the Naas, Skeena and some other northern areas ran well ahead of expectations; but Canadian packers got less than their normal share of the improved Fraser River run, and fish from the north again made up a great part of that area's output.

Season opening in Juan de Fuca and Haro straits was July 18, as on Puget Sound, and July 28 in the

1948 – British Columbia Canned Salmon Pack – 1948

DISTRICTS AND CANNERIES OPERATED	NUMBER CANNERIES OPERATED	SOCKEYE (Full Cases)	PINK (Full Cases)	CHUM (Full Cases)	COHO (Full Cases)	BLUE-BACK (Full Cases)	SPRING (Full Cases)	STEEL-HEAD (Full Cases)	**Grand Total (Full Cases)**
District No 1 (Fraser River and Howe Sound)									
Anglo-B. C. Packing Co., Ltd.—"Phoenix"	12	83,360	50,421	159,976	110,447	19,893	9,038	798	433.933
British Columbia Packers, Ltd.—"Imperial"									
Canadian Fishing Co., Ltd.—"Home"									
Colonial Packers, Ltd.—"Colonial"									
Great West Packing Co., Ltd.—"Great West"									
Johnston Fishing & Packing Co., Ltd.—"Glen Rose"									
Francis Millerd & Co., Ltd.—"Great Northern"									
National Fisheries, Ltd.—"National"									
Nelson Bros. Fisheries, Ltd.—"St. Mungo"									
North Shore Packing Co., Ltd.—"North Shore"									
Queen Charlotte Fisheries, Ltd.—"Bidwell Street"									
Tulloch Fisheries, Ltd.—"Tulloch"									
Skeena and Naas River Areas									
Anglo-B. C. Packing Co., Ltd.—"North Pacific"	7	121,716	153,234	108,580	41,581	....	4,731	3,755	433,597
British Columbia Packers, Ltd.—"Sunnyside"									
Canadian Fishing Co., Ltd.—"Carlisle"									
Cassiar Packing Co., Ltd.—"Caspaco"									
Francis Millerd & Co., Ltd.—"Seal Cove"									
Nelson Bros. Fisheries, Ltd.—"Prince Rupert"									
J. H. Todd & Sons, Ltd.—"Inverness"									
Central Areas and Rivers Inlet									
British Columbia Packers, Ltd.—"Namu"	4	40,862	108,063	188,766	35,112	....	1,480	1,056	375,339
Canadian Fishing Co., Ltd.—"Butedale" and "Goose Bay"									
J. H. Todd & Sons, Ltd.—"Klemtu"									
District No 3 (Vancouver Island etc.)									
Anglo-B. C. Packing Co., Ltd.—"Knight Inlet"	4	14,112	9,796	39,606	6,447	....	1,002	79	71,040
Canadian Fishing Co., Ltd.—"Nootka"									
Nelson Bros. Fisheries, Ltd.—"Ceepeecee"									
J. H. Todd & Sons, Ltd.—"Empire"									
GRAND TOTAL	27	260,050	321,514	496,928	193,587	19,893	16,251	5,686	1,313,909

NOTE:—The figures tabulated are preliminary statistics, based on weekly compilations by the Canadian Fisheries Department; they are subject to some later corrections. Figures on quantities canned in the various styles of package in British Columbia are not now available.

Since the packs of individual canneries are not available for publication, the output of Rivers Inlet is combined with that of the "Central Area" of District No. 2.

"District No. 1" in the tabulation includes the Fraser River, Howe Sound and waters around the mouth of the Fraser River. The "Central Area" include all canneries on the mainland north of Rivers Inlet and south of the Skeena River area. "District No. 3" includes all of Vancouver Island and adjacent mainland between Cape Caution and Gower Point.

Figures represent all salmon CANNED in the several districts, regardless where caught.

Fraser River and Gulf of Georgia—earlier than in 1947 by a month in the Straits and six weeks in the river. Few Canadian seiners, however took advantage of the early opening in the Straits and, while the run was evidently better than in 1944 and far greater than in 1947, the Canadian catch of Fraser River Sockeyes was very disappointing.

Pinks Make Poor Showing

With "off-year" for Pinks in the Fraser and adjacent waters, Pinks fell below the 1947 figure by 278,368 cases or 46%; though they came to almost three times that of 1946, and ran well ahead of several recent "off-years". Combined output of the Fraser and Vancouver Island districts was substantially greater than in 1946 and about even with 1944, while all northern areas far exceeded the last cycle-year, though considerably short of 1944 figures.

Cohoes and Bluebacks reached the highest point in several years, with a gain of 69,315 cases or 48% over 1947. The pack in the Fraser River district was exceptional, and in all other areas except Vancouver Island was well ahead of the two previous seasons. Steelheads made the largest pack in 30 years, and Springs the largest since 1944.

Chum Run Is Heavy

The catch of Chums (though definite figures are not yet available) appears to have been the largest since 1942, at least. Despite large exports of frozen Chums to Puget Sound canneries, the pack in Canada was 496,928 cases — exceeding that of 1947 by 35,129 cases, though 79,205 short of the previous year.

The pack on the Naas and Skeena was far above normal, though mediocre in other northern areas. The Fraser area made a good early start, and came in with large production in the fall; though the season here closed Nov. 30, and Nov. 15 in other districts.

Export Embargo Adjusted

In view of the discrepancy between Canadian and United States salmon prices, and the U. S. duty on canned salmon imports, it was feared that lifting of the wartime export embargo the previous October would result in disruption of the British Columbia industry through shipment of the raw fish to Puget Sound.

In the spring, however, the embargo was restored as to all fresh salmon except Kings, and Cohoes until Sept. 1; and the prohibition was later extended to frozen Pinks and Sockeyes, and to frozen Chums until Sept. 1.

As it turned out, very few Springs or Cohoes were exported for canning; but as the fall Chum run developed, a large tonnage was dressed, frozen, and shipped to Puget Sound canneries — this movement greatly exceeding that of the previous season. From comparison of pack data, it looks as if considerably more than half of British Columbia's fall Chum catch went to plants across the boundary; though those on the Canadian side had enough to keep them well occupied through this period.

British Columbia Canned Salmon Pack -- 1903 to 1948

Year	Sockeyes Fraser River	Sockeyes Other Districts	Total Sockeyes	Red Springs	Pink Springs	Other Springs	Total Springs	Cohoes and Blue-Backs	Steel-heads	Pinks	Chums	Total Cases	Year
1903	204,809	163,908	368,717	25,657	....	....	25,657	51,918	....	27,382	....	473,674	1903
1904	72,688	250,536	323,226	38,675	....	....	38,675	66,351	....	....	37,642	465,894	1904
1905	837,489	243,184	1,080,673	28,359	....	....	28,359	44,458	....	13,970	....	1,167,460	1905
1906	183,007	276,672	459,679	31,261	....	1,083	32,344	69,132	....	68,035	....	629,460	1906
1907	59,815	254,259	314,074	23,159	....	2,939	26,098	87,900	683	118,704	....	547,459	1907
1908	63,126	291,897	355,023	25,433	....	2,731	28,164	81,917	1,137	76,448	....	542,689	1908
1909	542,248	298,193	840,441	18,218	....	799	19,017	61,918	....	46,544	....	967,920	1909
1910	133,045	432,870	565,915	19,313	....	9,476	28,789	74,382	140	34,613	58,362	762,201	1910
1911	58,487	325,022	383,509	38,751	....	9,705	48,456	119,702	100	305,247	91,951	948,965	1911
1912	108,784	335,778	444,762	62,345	....	18,092	80,437	165,102	207	247,743	58,325	996,576	1912
1913	684,596	287,582	972,178	37,433	....	3,616	41,049	69,822	....	192,887	77,965	1,353,901	1913
1914	185,483	351,213	536,696	32,908	....	16,420	49,328	120,201	....	220,340	184,474	1,111,039	1914
1915	89,040	387,002	476,042	51,734	....	6,370	58,104	146,956	2,927	367,352	82,000	1,133,381	1915
1916	27,394	187,395	214,789	51,231	....	15,495	66,726	183,623	9,082	280,644	240,201	995,065	1916
1917	123,614	116,234	339,848	48,630	....	27,646	76,276	157,589	11,740	496,749	475,273	1,497,475	1917
1918	16,849	259,610	276,459	65,535	....	41,819	107,354	191,068	15,916	527,745	497,615	1,616,157	1918
1919	29,628	339,817	369,445	73,179	9,077	18,295	100,551	199,993	4,493	346,639	372,035	1,393,156	1919
1920	44,598	306,807	351,405	95,983	8,441	13,877	118,301	120,033	2,395	520,856	84,626	1,187,616	1920
1921	35,900	128,014	163,914	36,725	6,061	6,966	49,752	124,348	1,220	192,906	71,408	603,548	1921
1922	48,744	250,870	299,614	21,163	11,913	6,520	39,596	109,276	1,657	581,979	258,204	1,290,326	1922
1923	29,423	305,224	334,647	17,539	4,858	4,745	27,142	119,141	1,760	440,932	418,055	1,341,677	1923
1924	36,200	333,403	369,603	17,659	3,355	6,442	27,456	119,989	1,811	657,538	568,916	1,745,313	1924
1925	31,523	361,120	392,643	39,142	4,419	29,938	73,499	199,180	1,996	445,400	607,904	1,720,622	1925
1926	83,589	253,406	336,995	41,276	4,177	23,736	69,189	181,894	2,165	772,993	701,962	2,065,198	1926
1927	57,085	250,947	308,032	34,029	8,819	16,129	58,977	181,968	1,746	247,617	562,109	1,360,449	1927
1928	26,530	177,011	203,541	11,002	2,328	5,526	18,856	156,757	865	792,362	863,256	2,035,637	1928
1929	60,407	220,899	281,306	8,295	3,156	7,926	19,377	196,444	672	477,969	424,982	1,400,750	1929
1930	107,896	369,782	477,678	20,184	6,650	11,970	38,804	190,594	1,656	1,111,937	401,114	2,221,783	1930
1931	54,688	236,776	291,464	17,526	4,727	4,894	27,147	102,175	1,326	206,995	55,997	685,104	1931
1932	83,447	200,908	284,355	46,953	14,133	14,974	76,060	188,971	1,168	223,716	306,761	1,081,031	1932
1933	53,481	204,626	258,107	12,464	1,849	5,953	20,266	159,052	1,459	532,558	293,630	1,265,072	1933
1934	145,579	232,303	377,882	15,281	1,644	12,859	29,784	225,430	1,282	435,364	513,184	1,582,926	1934
1935	76,415	274,029	350,444	10,187	3,114	8,619	21,920	231,492	596	514,966	409,604	1,529,022	1935
1936	165,651	249,373	415,024	16,493	2,527	10,834	29,854	246,061	1,068	591,532	597,487	1,881,026	1936
1937	103,137	222,637	325,774	10,963	1,788	3,420	16,171	133,208	844	585,576	447,602	1,509,175	1937
1938	186,794	260,659	447,453	10,276	2,322	2,933	15,531	301,123	1,035	400,876	541,812	1,707,830	1938
1939	73,216	196,672	269,888	....	....	....	16,103	245,096	797	620,602	386,584	1,539,070	1939
1940	86,215	280,188	366,403	....	....	....	17,741	224,524	1,205	213,911	643,443	1,467,227	1940
1941	149,715	305,582	455,297	17,794	3,911	28,771	50,476	391,407	3,454	427,766	920,470	2,248,870	1941
1942	418,491	248,080	666,571	11,198	3,826	9,721	24,745	211,139	4,649	270,622	633,834	1,811,560	1942
1943	72,507	92,382	164,889	4,171½	2,199	4,287½	10,658	186,042½	3,095	530,188½	363,348½	1,258,221½	1943
1944	107,431	140,283	247,714	3,664	3,368	13,330	19,362	183,546½	3,926½	389,692	255,316½	1,097,557½	1944
1945	122,384½	205,617	329,001½	3,666½	2,686	6,447½	12,800	218,887	2,922	825,512½	350,188	1,739,311	1945
1946	381,580	161,447	543,027	3,972½	523	2,823	8,100½	100,154½	4,115½	116,607½	576,133½	1,348,138½	1946
1947*	91,238	195,259	286,497	3,840½	2,166	4,010½	10,017	146,293	3,268½	600,787½	486,615½	1,533,478½	1947
1948	83,360	176,690	260,050	....	....	....	16,251	213,480	5,686	321,514	496,928	1,313,909	1948
10-Year Avg.	**158,613**	**219,694**	**358,933**	**4,830**	**1,867**	**6,938**	**18,625**	**212,056**	**3,311**	**431,720**	**511,285**	**1,535,734**	**10-Yr. Avg.**

NOTE:—Figures for 1925 to 1946 have been corrected from official statistics. Figures for 1948 are subject to further correction. Figures for "Fraser River Sockeyes" include all Sockeyes canned in District No. 1, regardless where caught.

* Figures for 1947 include 28,321 cases packed from frozen fish of 1946 catch of various species.

SALMON
CANNING

The 1948 season brought several developments of more than ordinary interest in salmon canning procedure and equipment, among which increased use of refrigeration was outstanding.

A number of notably fine mechanical installations were made, most of them replacing older equipment. New canneries were fairly numerous, but individually small; while many minor improvements were made to buildings and machinery.

The past year brought considerable activity in cannery installation and improvement. A good many new enterprises (mostly quite small) entered the field; several old canneries were replaced by new, up-to-date plants, and some concerns whose interest has been in other lines installed salmon canning equipment.

Improvements in existing canneries were largely in the direction of better sanitation and "housekeeping," lighting, living accommodations and fire prevention, as well as in mechanical efficiency; and some new and interesting ideas were introduced.

Refrigeration and Transport

Among the most striking developments was increased use of refrigeration in long-distance transportation of salmon for canning, and holding it in frozen form for canning through a longer season.

Following small-scale experiments in 1947, W. D. Suryan and associates outfitted the converted 148′ Army freighter *Reefer King* as a floating freezer and successfully brought a cargo of Bristol Bay salmon to Puget Sound canneries. Peninsula Packers, also, carried iced salmon in considerable quantity from the Ugashik, which had an exceptional run, to their cannery at Port Moller; and there were other similar operations on a smaller scale. While one such project failed because of inadequate handling, the general success showed possibilities which may prove highly important.

Later, a number of loads of salmon in ice were brought to Puget Sound canneries from Southeast Alaska; and a great part of Puget Sound's big fall pack was made from frozen British Columbia Chums. There has even been talk of California canneries packing salmon from northern areas, including such distant regions as Bristol Bay.

Kodiak area canners also made more extensive use of ice: several plants being equipped to ice all fish on their tenders, some of which were equipped with mechanical refrigeration. Among the principal concerns following this line of development were the Kadiak Fisheries Co., Whiz Fish Products Co., Grimes Packing Co. and San Juan Fishing & Packing Co.

Notable Installations

Perhaps the finest examples of new cannery installation were on the Columbia River, where the Columbia River Packers Association, Inc., completely remodeled the salmon department of its "Elmore" plant, and the Del Mar Canning Co. entered the salmon field at Warrenton with a remarkably compact, flexible and efficient layout. The New England Fish Co. at Everett, Wash., also added an excellent canning department for talls and halves, with American Can Co. machinery, two "Iron Chinks" and eight double-ended 6-car retorts.

The C.R.P.A. installation, over concrete floors throughout, includes 8 Continental Can Co. lines — four for halves and one each for quarters, 1-lb. flats, ovals and talls—and all-metal furniture, with all work surfaces stainless steel. The Del Mar plant shows great ingenuity in utilizing equipment employed primarily for canning tuna and sardines, with addition only of a Continental ½-lb. high-speed salmon filling machine—this cannery also being featured by metal furniture and use of stainless steel.

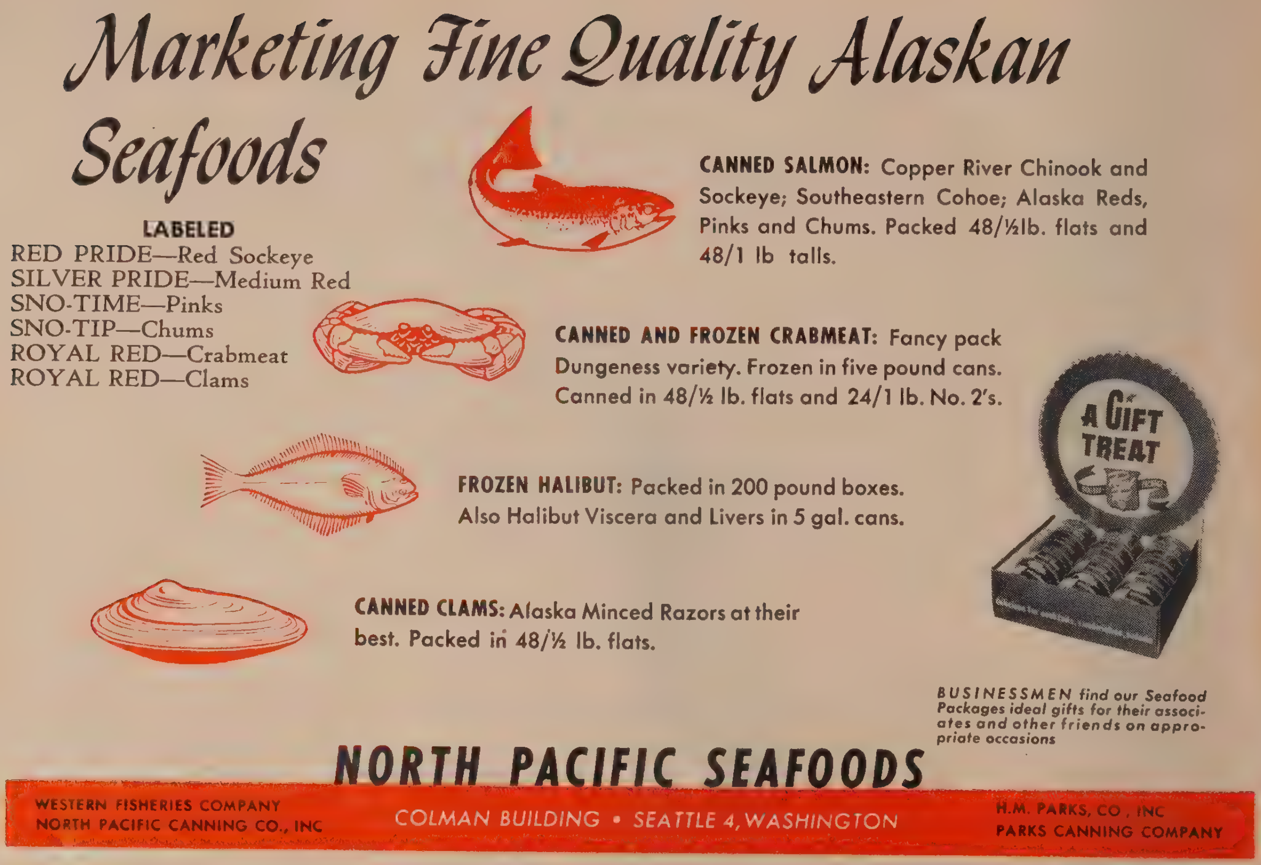
Most notable construction in Alaska is the Fidalgo Island Packing Co.'s Ketchikan cannery, which was completely rebuilt along up-to-date lines with aluminum exterior, and equipped for all-electric operation by separate motors for each machine.

Various New Canneries

On Bristol Bay the Egegik Packing Co., which started in 1947 completed its plant with an American Can Co. tall line and got into production. The Cape Douglas Canning Corp. outfitted a new floating plant and entered the Bristol Bay field at Naknek; also packing in the Peninsula and Kodiak areas; while the Northland Packing & Processing Co., a new concern at Naknek, did not build but operated jointly with the Cape Douglas concern at that point.

Island Seafoods, Inc., equipped a new steel floating cannery and operated in the Kodiak area, where Wm. C. King of Seattle also had a small new floater; and Mainland Fisheries, Inc., established a small plant ashore at Kukak Bay, across Shelikof Strait from Kodiak.

The Seaview Canning Co., which operated in Seattle in 1947, converted its plant to a floater and moved it to Kenai, Cook Inlet, and at Sel-



Marketing Fine Quality Alaskan Seafoods

LABELED
RED PRIDE—Red Sockeye
SILVER PRIDE—Medium Red
SNO-TIME—Pinks
SNO-TIP—Chums
ROYAL RED—Crabmeat
ROYAL RED—Clams

CANNED SALMON: Copper River Chinook and Sockeye; Southeastern Cohoe; Alaska Reds, Pinks and Chums. Packed 48/½lb. flats and 48/1 lb talls.

CANNED AND FROZEN CRABMEAT: Fancy pack Dungeness variety. Frozen in five pound cans. Canned in 48/½ lb. flats and 24/1 lb. No. 2's.

FROZEN HALIBUT: Packed in 200 pound boxes. Also Halibut Viscera and Livers in 5 gal. cans.

CANNED CLAMS: Alaska Minced Razors at their best. Packed in 48/½ lb. flats.

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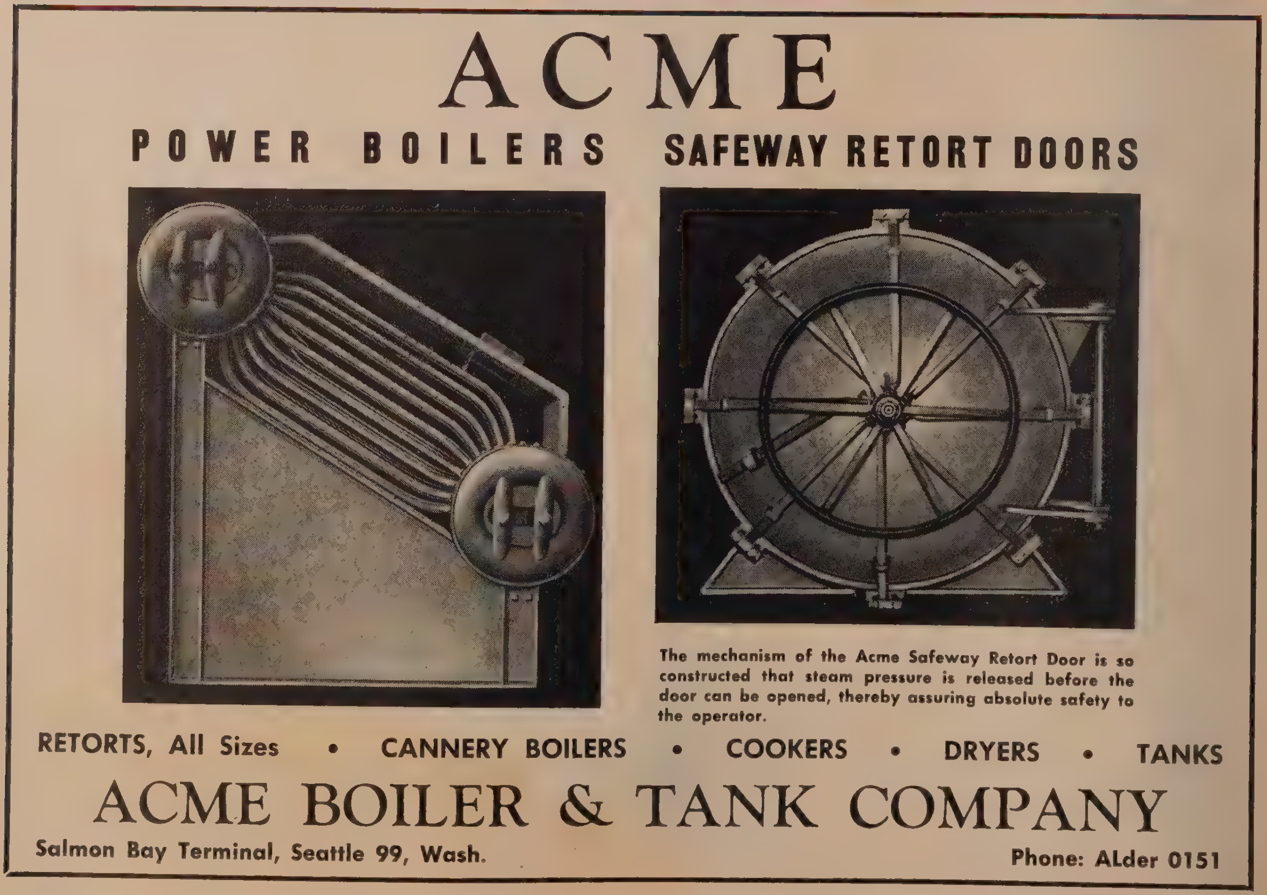

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ACME BOILER & TANK COMPANY

Salmon Bay Terminal, Seattle 99, Wash.   Phone: ALder 0151 dovia Alaska Shell Fish, Inc., under new management, installed an American Can Co. salmon line and engaged in salmon canning for the first time. The Standard Salmon Co., a new concern, established a plant at Valdez.

The Douglas Canning Co.'s plant at Douglas, Southeast Alaska, was completely rebuilt and equipped with up-to-date Continental tall and half lines.

In addition to the improvements mentioned on the Columbia River, the Sebastian-Stuart Fish Co. added salmon canning equipment for halves and ovals to its Astoria plant, and packed salmon there for the first time. More California concerns engaged in salmon canning, with some addition of equipment. Tom Lazio Fish Co., Eureka, added a second line for halves.

Cannery Improvements

Bristol Bay Packing Co. did considerable building, extending its dock at Pederson Point and building a new web dock and shipways at Dillingham. After the season the Nakat Packing Corp., Nakeen, drove a lot of steel sheet piling to stop erosion of its site, and built an improved fish-house, new mess house and web loft.

Chignik Fisheries, Chignik, remodeled and modernized its buildings. On Cook Inlet R. A. Kester and Associates (formerly R. A. Kester individually) installed its plant on a barge and moved it to Snug Harbor, putting in separate electric drive for all machines and a steam generator for cooking.

The Wards Cove Packing Co., Ketchikan, adopted handling of its pack on pallets, which increased its storage capacity but required reinforcement of floors and foundations.

A novel development in Southeast Alaska was adoption by the Kayler-Dahl Fish Co., Petersburg, of retort baskets instead of the familiar cooler trays. Salt Sea Fisheries, Tenakee, changed its canning line from halves to talls; and Farwest Wrangell Co., Wrangell, operating in the former Burnett Inlet plant, added a ½-lb. line from Saginaw Bay.

On Puget Sound the Fishermen's Packing Corp., Anacortes, filled in solid ground under its warehouse; dredged a basin alongside the plant for its seiners, and provided greatly improved accommodations for both fishermen and cannery help. Farwest Fishermen, Inc., Anacortes, rebuilt its foundations and enlarged the dock with creosoted piling. John C. Jackson, Inc. (formerly John Jackson Cannery), Friday Harbor, added refrigeration equipment and a high-speed ½-lb. line.

The Alaska Year Round Canneries Co. and General Fish Co., operating on Cook Inlet, established their own boat moorings and repair shops just above the locks at Seattle; and the San Juan Fishing & Packing Co., Uganik Fisheries, Inc., Peninsula Packers and Todd Packing Co. acquired a dock on Lake Union for similar purposes.

Four Fire Losses

The historic Excursion Inlet cannery of the Astoria & Puget Sound Canning Co. was destroyed by fire April 12, with loss of three canning lines, warehouses, oil dock and cable shed with 150,000′ of cable. Power house, bunk houses, boat and carpenter shops and six oil tanks were saved.

On June 18 two warehouses of the Chinook Packing Co., Chinook, Wash., were destroyed by fire, with a large quantity of supplies and several carloads of the spring pack.

The Hydaburg Cooperative Association's plant at Hydaburg burned July 8, the loss including a fine new warehouse and an up-to-date line of machinery. The Rose Inlet cannery, now owned by the Nakat Packing Corp., was leased to make the season's pack, and reconstruction of the Hydaburg plant was started before the end of the year.

Kadiak Fisheries Co.'s big modern plant at Port Bailey, with 2½ lines, was almost totally destroyed Aug. 16, together with about 12,000 cases of salmon — most of the pack having been shipped. Reconstruction was commenced late in the year.

NORTH AMERICAN CANNED SALMON PACK, 1917 TO 1948

Year	Red, Sockeye or Blueback	Pink	Chum or Keta	Medium Red Coho or Silverside	King or Chinook	Steelhead Trout	Total Cases	Year
1917	3,248,843	3,929,332	1,648,313	588,749	673,980	35,677	10,124,894	1917
1918	2,987,710	2,953,245	2,175,031	838,088	697,140	41,086	9,692,300	1918
1919	1,707,846	2,426,414	2,367,481	793,175	704,195	24,392	8,023,503	1919
1920	1,892,691	2,138,959	1,175,001	361,566	705,050	16,054	6,289,321	1920
1921	2,034,310	1,038,090	359,947	362,943	419,508	11,362	4,226,160	1921
1922	2,480,811	2,241,760	908,283	510,919	353,588	26,640	6,522,001	1922
1923	2,309,142	3,371,917	1,120,591	534,225	389,802	27,757	7,753,434	1923
1924	1,902,832	3,295,739	1,835,251	542,682	406,096	31,270	7,990,543	1924
1925	1,581,792	3,111,320	1,803,371	667,817	550,071	17,248	7,731,610	1925
1926	2,550,771	4,101,422	1,762,134	607,778	485,783	86,233	9,544,126	1926
1927	1,738,054	2,241,304	1,217,338	642,522	538,574	33,377	6,411,169	1927
1928	2,214,498	3,583,433	2,165,652	602,203	354,798	17,492	8,938,076	1928
1929	2,100,787	3,775,764	1,541,213	564,826	375,497	24,821	8,382,908	1929
1930	1,710,018	4,266,301	1,085,351	758,451	427,282	18,509	8,265,912	1930
1931	2,084,385	3,890,755	671,574	388,140	418,483	13,679	7,467,016	1931
1932	2,484,459	2,341,966	1,313,537	446,706	394,830	14,386	6,995,884	1932
1933	2,579,891	3,259,341	1,021,547	402,107	343,442	19,486	7,625,814	1933
1934	3,354,863	4,261,262	1,362,905	596,951	352,752	16,183	9,944,916	1934
1935	1,232,852	4,139,114	1,303,216	596,117	279,693	15,484	7,566,476	1935
1936	2,968,184	5,181,954	1,846,675	533,285	313,795	20,350	10,864,243	1936
1937	2,494,302	4,532,487	1,233,999	369,916	385,986	18,412	9,035,372	1937
1938	3,125,176	3,623,435	1,387,245	595,380	234,520	16,283	8,982,039	1938
1939	2,280,088	3,412,392	1,054,858	472,239	254,930	26,090	7,500,597	1939
1940	1,402,999	3,124,292	1,553,389	592,395	286,485	34,443	6,994,003	1940
1941	1,763,852	5,218,427	1,770,225	831,279	422,989	36,597	10,043,369	1941
1942	1,860,044	3,088,724	1,723,193	616,687	343,369	26,507	7,658,524	1942
1943	2,169,091	2,913,760	1,258,239	377,160	196,000	19,357	6,933,608	1943
1944	1,869,365	2,478,750	1,239,548	383.040	223,088	23,143	6,216,934	1944
1945	1,556,200	3,374,192	1,041,387	457,680	194,056	22,125	6.645.640	1945
1946	1,893,469	2,176,817	1,267,478	316,968	230,811	21,880	5,907,423	1946
1947	2,197,569	2.962,281	1,127,496	438,087	366,620	25,325	7,117,378	1947
1948	1,994,141	1,630,203	1,551,565	584,090	354,874	26,048	6,140,921	1948
Ten Year Avg.	**2,011,785**	**3,237,307**	**1,342,305**	**508,091**	**275,286**	**25,175**	**7,399,951**	**Ten Year Avg.**

Average figures are for ten years prior to 1948. Statistics for earlier years will be found in previous numbers of the YEARBOOK.

SALMON
CANNING

Notable changes in ownership or control of salmon canning companies were exceptionally numerous in 1948, affecting properties in all major districts from Bristol Bay to the Columbia River.

An interesting feature is a tendency to adopt the corporate structure for concerns of all sizes, in several cases superseding partnerships or individual operations.

Of the many business developments in the canned salmon industry during the past year, one of the most outstanding was expansion of the interests of A. W. and H. A. Brindle, long identified with the Wards Cove Packing Co., a leading producer of the Ketchikan district.

At the end of 1947 they acquired the capital stock of the Beegle Packing Co., also of Ketchikan; and in April they entered the Bristol Bay field by purchase of the capital stock of the historic Red Salmon Canning Co. from members of the Peterson family, which had controlled it since its establishment by the late Frank B. Peterson in 1901.

The properties involved included the 4-line "Red Salmon" cannery, one of the largest and finest plants on the Naknek, with 7 modern power scows, a large gillnet fleet and much other floating equipment; the subsidiary Naknek Trading Co., with a mercantile business and Standard Oil station on the Naknek; a large new plant at Aberdeen, Wash., operated as the Deep Sea Products Co. (which was immediately resold to the Columbia River Packers Association, Inc., and canned no salmon in 1948); and a sales department operating as the Frank B. Peterson Co.

Nakat Buys Harris Plants in S. E. Alaska

Of exceptional interest, also, was purchase by the Nakat Packing Corp. of the Ketchikan ("Sunny Point") and Rose Inlet canneries of P. E. Harris & Co., previously owned by Alaska Pacific Salmon Co.

Increased interest of Alaska Indians in salmon canning was exemplified by sale of the Hood Bay Salmon Co.'s property at Hood Bay to the Angoon Community Association. The purchase included a modern 1-line plant with Continental Can Co. machinery, four traps, a 73' tender, etc. The cannery was under lease to the Whiz Fish Products Co., which operated it for the season; but the native organization is preparing for 1949 operation.

Purchase by Columbia River Packers Association, Inc., of the Excursion Inlet, Alaska, cannery site and appurtenances formerly owned by the Astoria & Puget Sound Canning Co. marked the retirement from the industry of Daniel Campbell of Bellingham, after 49 years of activity. The Excursion Inlet cannery had been burned, but arrangements were made to pack its fish in other plants.

P. A. F. Enters Frozen Food Field

Pacific American Fisheries, Inc., one of the largest canned salmon producers, extended its interest into the field of frozen fruits, vegetables, etc., by purchase of a controlling interest in Cedergreen Frozen Pack, which simultaneously acquired control of Polar Frosted Foods, Inc.; the two concerns having several large plants in the state of Washington.

Death on Jan. 16 of A. L. Hager, long president of the New England Fish Co. and its subsidiary, The Canadian Fishing Co., Ltd., was followed by election of Harald Synnestvedt to the presidency of New England, and James S. Eckman as president of the Canadian company, and advancement of other executives—S. M. Rosenberg, Roger T. Hager and Henry H. Goodrich—to higher positions and responsibilities in the respective companies.

Late in the year a majority interest in the Columbia River Salmon Co., Inc., Astoria, was purchased from Arthur Anderson, its founder, by John T. Tenneson of Seattle, head of the Superior Packing Co., Tenakee, and Pyramid Fisheries Co., Sitka.

Whiz Fish Products Co. extended its operations to Kodiak Island by purchase of Frank McConaghy & Co., operating a 1-line plant at Kodiak—later merged in the Whiz organization.

Following the death of Mrs. Josie Sandvik of Seward, her small cannery on Uganik Bay, Kodiak Island, was purchased by Herbert T. Dominici, adopting the trade name of West Point Canning Co.

The Gilbert Packing Co., Cordova, succeeded the W. R. Gilbert Co., with retirement of Mr. Gilbert from active operation.

Queen Fisheries, Inc., organized by Arthur B. Anderson, Herman Sandvik and E. H. Bendicksen, took over the floating cannery *Alaska Queen* and operated it on Bristol Bay; and Win-Ra Fisheries, operating on the Ugashik, was incorporated with little change in ownership.

The West Coast Salmon Co., headed by R. E. Buschmann and operating at Klawock, Southeast Alaska, was incorporated to succeed the West Coast Packing Co., a partnership.

The Barbey Packing Co., Astoria, was succeeded by the Barbey Packing Corporation, headed by Graham J. Barbey, son of the proprietor of the old concern.

At Aberdeen, Wash., Reuben's Packing Co. was incorporated by Reuben G. Swanson and associates, and operated the former Washington Packing Co. plant.

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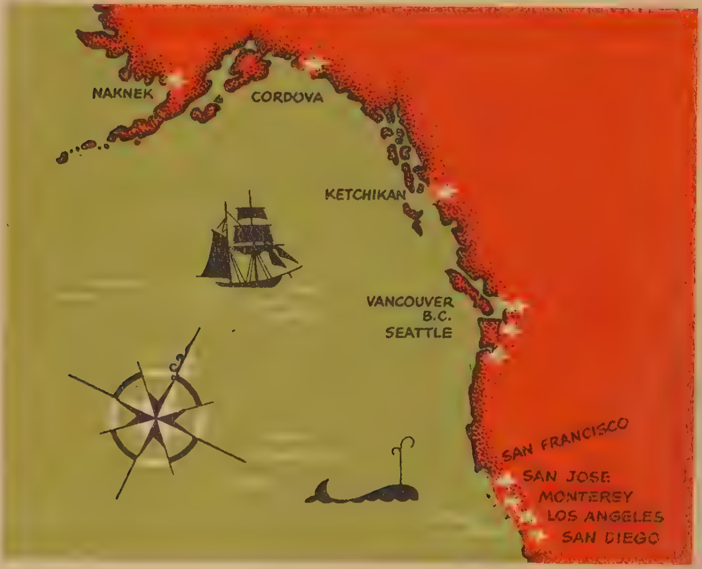
your
favorite subject

Chapter 1

HOW CANCO CANS COVER THE PACIFIC COAST CATCH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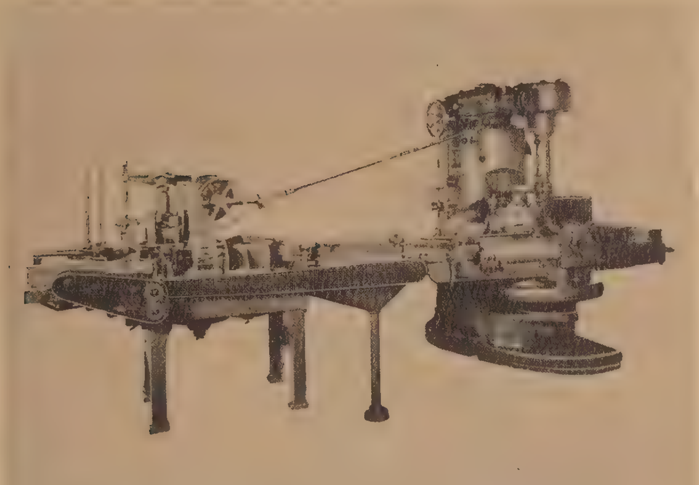

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Chapter 4

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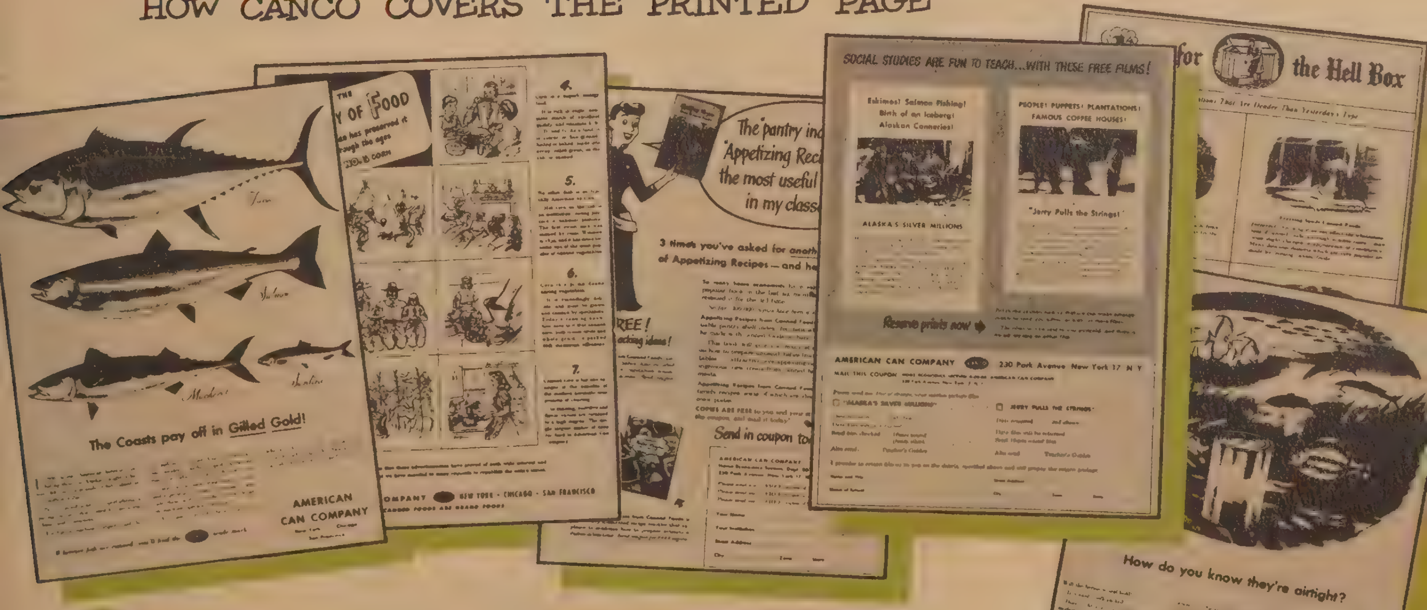
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Chapter the last... BUT NOT THE LEAST IMPORTANT

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Canned fish recipes are constantly being developed and tested in the famous Canco testing kitchen—and being distributed to teachers, students and dietitians everywhere.

Take these home to your wife and see if *you* don't like them!

BROILED SARDINES ON TOAST

- 1 8½-oz. can boneless California Sardines
- 1 teaspoon Worcestershire Sauce
- 1 tablespoon Lemon Juice
- 4 slices buttered Toast
- 4 tablespoons grated American Cheese

Drain excess oil from sardines. Mix together Worcestershire sauce and lemon juice. Trim crusts from toast. Cover toast with sardines. Sprinkle sauce mixture over sardines. Top with cheese. Place under broiler at low temperature from 7 to 8 minutes until sardines are heated and cheese has melted. Garnish with strips of pimiento and parsley or watercress, as desired. **4 Servings.**

SALMON CHOWDER

- 1 No. ½ Flat can (7¾-oz.) Salmon
- ½ cup Tomato Juice
- 1 cup Water
- ¼ cup diced Onion
- ½ cup raw, cubed Potato
- ½ teaspoon Celery Salt
- 2 tablespoons Butter or Margarine
- 2 tablespoons Flour
- ½ teaspoon dry Mustard
- 1½ cups Milk
- ¼ teaspoon Worcestershire Sauce

Drain salmon and remove skin and bones. Flake into saucepan. Add tomato juice, water, onion, potato, and celery salt. Simmer 30 minutes. Melt margarine in a 1½-quart saucepan. Stir in flour and mustard and blend until smooth. Gradually add milk and cook 10 minutes over low heat, stirring constantly, until sauce thickens. Slowly add salmon mixture to sauce. Stir in Worcestershire sauce. Serve immediately. **6 Servings.**

TUNA FISH-DEVILED EGG SALAD

- 2 7-oz. cans Tuna Fish
- 1 cup canned Peas
- ½ cup Green Pepper, cut in small strips
- ½ medium-size Cucumber (1 cup sliced and quartered)
- ½ cup Mayonnaise
- 1 tablespoon Lemon Juice or Vinegar
- 6 hard-cooked Eggs
- 5 tablespoons Mayonnaise
- 2 teaspoons minced Onion
- ¼ teaspoon Salt
- ¼ teaspoon dry Mustard
- ½ teaspoon Worcestershire Sauce
- Dash of White Pepper
- Lettuce

Drain tuna fish and flake; add peas and green pepper. To prepare cucumber, leave skin on; wash thoroughly and score with a fork, slice, then quarter each slice. Add to fish mixture. Combine ½ cup mayonnaise and lemon juice or vinegar; add to tuna and vegetables. Mix all together lightly with fork. Cut eggs in half lengthwise. Remove yolks and mash. Combine with all remaining ingredients except lettuce, blending well. Pile egg yolk mixture into whites. Arrange salad in lettuce cups and garnish with deviled eggs. **6 Servings.**

CREAMED SALMON DE LUXE

- 1 1-lb. can Salmon
- ½ cup Butter or Margarine
- ½ cup Flour
- ⅛ teaspoon Pepper
- 3½ cups Milk
- 2 tablespoons chopped Anchovies
- 1 No. 2 can Peas, drained
- 2 teasp. chopped Parsley
- 10 slices Toast

Drain salmon, reserving liquor; remove skin and bones and flake. Melt butter or margarine in a saucepan; add flour and pepper and stir until blended. Combine salmon liquor and milk; gradually stir into butter-flour mixture. Cook, stirring constantly, until smooth and thickened. Add salmon, anchovies, peas and parsley. Heat thoroughly and serve on toast. **10 Servings.**

TUNA-CHIP CASSEROLE

- 1 cup Elbow Macaroni
- 1 7-oz. can Tuna Fish, coarsely flaked
- 1 10½-oz. can Condensed Cream of Mushroom Soup
- ½ cup Milk
- 2 tablespoons Pimiento, diced (optional)
- 1¾ cups Potato Chips, coarsely crushed

Cook macaroni in boiling, salted water until tender; drain. Carefully combine macaroni, tuna fish, mushroom soup, milk and pimiento. Add 1 cup crushed potato chips to the tuna fish mixture. Turn into a shallow 1½-quart casserole. Top with remaining potato chips. Bake in a moderately hot oven (400°F.) for 25 minutes. **5 Servings.**

SARDINES AND NOODLES, POLONAISE

- ½ 8-oz. package wide Egg Noodles
- 1 quart boiling Water
- 1 teaspoon Salt
- 1 15-oz. can California Sardines in Tomato Sauce
- ¼ cup fine dry Bread Crumbs
- 2 tablespoons Butter or Margarine

Cook noodles in rapidly boiling salted water 9 minutes, or as directed on the package. Drain noodles; rinse with cold water and drain again. Place in the bottom of a greased 1-quart casserole. Arrange sardines and sauce on top of noodles. Brown crumbs in butter or margarine; sprinkle over fish. Bake in a moderately hot oven (400°F.) for 20 minutes. Serve immediately. **4 Servings.**

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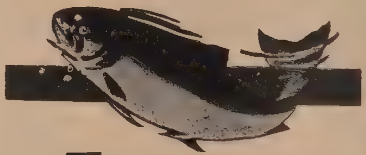

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	Per Case (48 Cans) Talls	Flats	Halves
1937			
Chinook, C.R. Fcy.	---------	$14.40	$8.40
Pgt. Sd. Sockeye	---------	14.00	8.40
Alaska Red	$10.00	11.00	6.80
Alaska King	9.00	9.60	6.20
Coho, Fancy	8.40	9.40	5.40
Med. Red	8.00	8.20	5.00
Pink	5.00	5.60	3.40
Chum	4.80	---------	3.20
1938			
Chinook, C.R. Fcy.	---------	$14.40–15.60	$8.40– 9.20
Pgt. Sd. Sockeye	---------	10.00	7.00
Alaska Red	$7.40– 7.80	8.80	5.60
Alaska King	6.80– 7.60	8.60	5.40
Coho, Med. Red	6.40	7.00	5.00
Pink	4.00	---------	3.00
Chum	3.60– 3.80	---------	2.80
1939			
Chinook, C.R. Fcy.	---------	$14.80–15.60	$8.60– 9.20
Pgt. Sd. Sockeye	---------	13.60	8.00
Alaska Red	$8.60– 9.00	9.40	6.40– 6.70
Alaska King	8.40	10.40	8.40
Coho, Fancy	7.00– 7.20	8.00	5.00
Med. Red	6.40– 7.00	---------	4.80– 5.00
Pink	5.00– 5.20	---------	3.40– 3.60
Chum	4.60	---------	3.20
1940			
Chinook, C.R. Fcy.	---------	$15.40	$9.00
Pgt. Sd. Sockeye	---------	14.00	8.40
Alaska Red	$9.60	10.60	6.60
Alaska King	9.20	---------	---------
Coho, Fancy	7.80– 8.00	8.40	5.00
Medium Red	7.40	---------	4.80
Pink	5.40	---------	3.80
Chum	4.80	---------	3.40
1941			
Chinook, C.R. Fcy.	---------	$18.00	$10.40
Pgt. Sd. Sockeye	---------	17.00–17.40	10.00
Alaska Red	$13.40–13.60	14.40	8.20
Alaska King	12.00	---------	---------
Coho, Med. Red	---------	12.00	7.00
Pink	7.00	---------	4.40– 4.80
Chum	6.80	---------	4.20– 4.60

	Per Case (48 Cans) Talls	Flats	Halves
1942			
Chinook, C.R. Fcy.	$19.00	$20.60	$13.00
Pgt. Sd. Sockeye	18.00	19.00	11.40
Alaska Red	15.00	15.50	10.00
Coho, Silverside	11.60–11.80	12.30–14.00	8.00
Pink	8.00	8.00	5.60
Chum	7.60	9.00	5.00– 5.40
1943 - 1944 - 1945			
Chinook, C.R. Fcy.	$19.00	$20.60	$13.00
Alaska King	14.00	17.60	10.00
Pgt. Sd. Sockeye	18.00	19.00	11.40
Copper R. Sockeye	15.00	16.00	11.00
Alaska Red	15.00	15.50	10.00
Coho, Silverside	11.60–11.80	12.30–14.00	8.00
Pink	8.00	8.00	5.60
Chum	7.60	9.00	5.00– 5.40
1946			
Chinook, C.R. Fcy.	---------	---------	$18.50
Alaska King	$20.00	$24.00	18.50
Pgt. Sd. Sockeye	25.00–28.00	35.00	19.00
Alaska Red	20.00–22.00	19.18–23.00	13.40–16.50
Coho, Med. Red	16.00–17.00	---------	11.60
Pink	12.00	---------	8.40
Chum	9.40–11.60	---------	8.00
1947			
Chinook, C.R. Fcy.	---------	---------	$19.00–20.00
Alaska King	$21.40–22.00	$28.25	17.50–18.00
Pgt. Sd. Sockeye	---------	---------	19.00–22.00
Alaska Red	22.65–24.50	23.25–25.00	16.00–17.50
Coho, Med. Red	22.00	---------	15.00–15.40
Pink	17.25–19.00	---------	11.50–13.50
Chum	6.50–18.50	---------	11.10–12.50
1948			
Chinook, C.R. Fcy.	---------	---------	$22.00–23.50
Alaska King	$24.00–26.00	---------	17.00
Pgt. Sd. Sockeye	---------	---------	22.00
Alaska Red	26.00–27.00	$27.00–28.00	18.00–19.00
Coho, Med. Red	25.00	26.50	15.00–17.50
Pink	22.00–23.00	---------	13.00–15.00
Chum	20.00–22.00	---------	12.00–13.50

Explanation of Table of Initial Prices

NOTE: The title of this tabulation has been changed from "OPENING PRICES" to "INITIAL PRICES," and the prices of pre-war years—originally quoted *per dozen each* are converted to the *per case* basis which is now in general use.

While the prices quoted are based largely on formal "opening prices" announced as such by leading sellers, they are not limited exclusively to such quotations. The formal "opening prices" of different concerns are often incomplete, and vary so widely that a full presentation of them might be confusing. The purpose of this tabulation is to present comprehensively for each year the earliest prices at which substantial quantities of the pack were sold.

The prices here quoted for the war years are the "ceilings" established by the government. Those for 1946 are the prices announced by the majority of large packers after "decontrol."

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SALMON
MARKETS

Disappointing production of canned salmon — especially of Pinks, which made the smallest pack in 27 years—brought 1948 prices to still higher levels, notwithstanding declines in some competing foods.

The advance, however, held demand in fairly close balance with supply. Reds as well as Pinks showed great strength; while Chums, of which the pack was unusually large, were slow to move and developed some easiness toward the end of the year.

Distributive movement of canned salmon in 1948 followed a general pattern rather similar to that of the previous year—dullness through the winter; revival in spring, with complete cleanup before new pack; strong demand for early offerings, falling slack again in the fall.

In some details, however, the pattern showed notable changes: important features being a drop in production of over a million cases; delay in arrivals from Alaska; a waterfront strike which, as in 1946, seriously interfered with deliveries through the fall; and an almost complete lack of export trade.

Prices Range Upward

Prices practically throughout the year held to somewhat higher levels than in 1947, reacting to the shortage of salmon and further advances in many competing foods. This resulted in strong consumer resistance which, combined with a more cautious attitude among distributors, tended to limit the demand, holding it in fairly close balance with the scant supply.

In consequence, no serious overall shortage was apparent as the year ended. The great bulk of the output had been taken out of packers' hands, but stocks in the trade appeared ample for nearby requirements.

At that time, indeed, a slight easiness was noted in some lines, and it looked as if values had finally reached a peak. Continued inflationary factors, however—prospect of further increase in wages at large, and correspondingly higher costs to the industry; expansion of military forces; large-scale government expenditure in other directions, and world-wide need for food—gave confidence that all salmon now available will be needed before the 1949 packing season. This feeling is fortified by the fact that, compared with other popular protein foods, canned salmon is still economically priced.

Talls of 1947 Pack Clean Up Early

The small carryover from 1947 received very little attention from buyers through the early part of the year, and a break in the market for many staple commodities in February caused some anxiety. For months some salmon items were being resold by eastern speculators at less than Coast prices; but primary-market values were steadily maintained, and a revival of demand in mid-April soon brought a really "tight" market on most varieties.

Talls of all species were in light supply from the start, and by March were becoming quite scarce. Reds were practically sold out even earlier at $26 per case, except for some salvaged stock. Pink talls cleaned up in April at $21-22; Chums went soon afterward at $18.50-$19; Cohoes at $23-24.

An unusually large part of the big Puget Sound Pink pack in 1947, and a good many Chums and Cohoes, had been packed in halves, which the trade was slow to take in the quantities offered. In the absence of talls, however, the Pink halves were cleaned up in May at $13; and most of the Chums, at $11.50-12, and Cohoes, at $13-15, were gone by that time.

A good many Chums from frozen stock, and some troll-caught Chinooks, were packed early on Puget Sound. These went mostly into talls, and moved readily at the prevailing spot prices. Columbia River spring packing was stymied by the great flood, and offerings from that source were withdrawn until late summer.

Demand Becomes Urgent

Midsummer brought an almost complete cleanup of wholesale and retail as well as packers' stocks, with urgent demand for early deliveries of new pack, and buyers bidding against each other for supplies. The demand had somewhat less "body" than the previous summer, being mostly for small lots; but prices ranged upward, with Red talls reaching $27; Cohoes at $25.26. Pinks were mostly withdrawn through August, but were reported at up to $24, and Chums at $19 to $22. Pink halves were very scarce at $13 to $14.

Many looked for an easing-off as new pack became available, but the

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1948 -- Monthly Record of Pacific Coast Canned Salmon Prices -- 1948

(Quotations per case of 48 cans, 1-lb. or ½-lb., f.o.b. Pacific Coast shipping point)

VARIETY AND PACKAGE	DECEMBER (1947)	JANUARY (1948)	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
CHINOOK, FANCY—	$	$	$	$	$	$	$	$	$	$	$	$
½-Lb. Flats	19.00–20.00	19.00–20.00	....	....	....	19.00–20.00	....	22.00–23.50	22.00–23.50	22.00–23.50	22.00–23.50	22.00–23.50
SOCKEYE, PUGET SOUND—												
½-Lb. Flats	21.60–22.00	21.60–22.00	....	....	....	....	....	....	22.00	22.00	22.00	21.00–22.00
ALASKA RED—												
1-Lb. Talls	26.00	26.00	26.00	26.00	26.00	....	....	26.00–27.00	26.00–27.00	27.00	27.00	27.00
1-Lb. Flats	26.00	....	....	....	....	....	....	....	27.00–28.00	....	....	....
½-Lb. Flats	18.00–18.20	18.00–18.20	18.00–18.20	18.00–18.20	18.20	18.20	18.50	18.50	18.50–19.00	19.00	19.00	18.50–19.00
COHO, MEDIUM RED—												
1-Lb. Talls	23.00–24.00	23.00–24.00	23.00–24.00	24.00	23.00–24.00	....	....	25.00	25.00–26.00	25.00–26.00	25.00–26.00	25.00–26.00
½-Lb. Flats	13.00–15.00	13.00–15.00	13.00–15.00	14.00–15.00	13.00–15.00	13.00–15.00	14.00–15.00	14.00–15.00	15.00	15.00–16.00	15.00–16.00	14.50–15.00
PINK—												
1-Lb. Talls	20.00–21.00	21.00	21.00	21.00	21.00	....	....	22.00	22.00–24.00	23.00–24.00	23.00–24.00	23.00–24.00
½-Lb. Flats	12.00–13.00	12.00–13.00	12.00–13.00	12.50–13.00	12.50–13.00	13.00	....	13.00	13.00–15.00	13.00–15.00	15.00	15.00
CHUM—												
1-Lb. Talls	18.50–19.00	18.50–19.00	18.50–19.00	17.50–18.50	18.00	18.00–18.50	17.50–18.75	19.00–20.00	21.00–22.00	21.00–22.00	20.00–22.00	19.00–22.00
½-Lb. Flats	11.50	11.00–12.00	11.50–12.00	11.50–12.00	11.50–12.00	10.50–12.00	12.00	10.50–11.50	11.00–11.50	11.00–13.50	11.00–12.00	11.00–12.00

disappointing returns stiffened the market. The Alaska Red output, though well above average, was far below expectations—almost ¼-million cases below the previous year. Opening prices on Red talls, announced early in August, caused scarcely a ripple, being withdrawn almost immediately, after heavy sales. Thereafter the prevailing price was $27, with many asking $28; and by December few had any quantity of Reds to offer.

Puget Sound Sockeye production was above expectations, but was balanced by a poor season on the Columbia, where the new-pack fancy Chinook halves moved readily at $22, with special brands up to $23.50. Most of the Sockeyes were quickly taken at $22, though a few of the small lots left by December were available at $21.

Shortage of Pinks Features 1948 Pack

Outstanding feature of the 1948 season was the drop in output, which fell to approximately the same low level as in 1946—down almost 1½ million cases from the average of the last ten years, and more than 2¼ million below prewar figures. The great shortage was in Pinks, which fell about 1,060,000 cases below 1947 to the lowest point in 27 years. This species has been in subnormal supply since 1941, and the shortage forced a further advance, bringing a much narrower spread than usual between Pinks and Reds.

Early Pinks for spot shipment were held at $24-25. At the opening in September they dropped to $23-23.50, but quickly jumped to $24, with heavy sales. Through November a few were still available

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WEEKLY ALASKA SALMON PACKS

Dates	Weekly Packs	Cumulative Totals
To June 26, 1948		156,987
June 28, 1947		267,564
June 29, 1946		204,255
June 27—July 3, 1948	514,912	671,899
June 29—July 5, 1947	704,521	972,085
June 30,—July 6, 1946	267,830	472,085
July 4—10, 1948	552,941	1,224,840
July 6—12, 1947	502,206	1,474,291
July 7—13, 1946	322,850	794,935
July 11—17, 1948	360,957	1,585,797
July 13—19, 1947	544,041	2,018,332
July 14—20, 1946	272,891	1,067,826
July 18—24, 1948	417,003	2,002,800
July 20—26, 1947	392,461	2,410,793
July 21—27, 1946	384,132	1,451,958
July 25—31, 1948	309,942	2,312,742
July 27—August 2, 1947	374,582	2,785,375
July 28—August 3, 1946	375,788	1,827,746
August 1—7, 1948	269,422	2,582,164
August 3—9, 1947	471,825	3,257,200
August 4—10, 1946	548,005	2,375,751
August 8—14, 1948	261,383	2,843,547
August 10—16, 1947	131,697	3,388,897
August 11—17. 1946	315,176	2,690,927
August 15—21, 1948	59,418	2,902,965
August 17—23, 1947	272,653	3,661,550
August 18—24, 1946	116,125	2,807,052
August 22—28, 1948	399,588	3,302,553
August 24—30, 1947	298,523	3,960,073
August 25—31, 1946	231,228	3,038,280
August 29—September 4, 1948	446,294	3,748,847
August 31—September 6, 1947	245,133	4,205,206
September 1—September 7, 1946	417,455	3,455,735
September 5—11, 1948	164,194	3,913,041
September 7—13, 1947	48,669	4,253,875
September 8—14, 1946	359,643	3,815,378
September 12—18, 1948	20,359	3,933,400
September 14—20, 1947	22,849	4,276,724
September 15—21, 1946	60,460	3,875,838
Later*, 1948	32,926	3,966,326
Later*, 1947	35,731	4,312,455
Later*, 1946	84,772	3,960,610

* "Later" figures cover all salmon canned for the year after dates indicated.

All data based on weekly reports to U. S. Fish & Wildlife Service

at $23, but substantial government buying at $24 stiffened the market, and the year closed with very few talls unsold. Pink halves, opening at $13-15, have remained firm at the higher figure and are well sold out.

The Coho pack was above average, but this species was strong in sympathy with Reds and advanced to $25 for talls at the opening, with most good-quality stock later firm at $26; while the better lots of halves advanced to $16.

Chums in Good Supply

Chum production was the largest in some years, and this species has been moving less readily. Thus, despite the fact that the pack of Pinks and Chums combined is far short of normal requirements, Chum talls have been the weakest item on the list. While they opened at $22, offerings at $21 continued to appear. In November sales were made as low as $19, which late in the year tended to become the prevailing figure. Supplies of Chum halves were not burdensome, and were steadily held at $11-12.

In October, following a drop in prices for meat and some lines of canned fish, demand for all varieties of salmon slowed down rather abruptly and remained quiet for the balance of the year, with little expectation of renewed activity until spring. Small replacement orders, however, continued fairly numerous, and some interest in Reds and Pinks was apparent at all times; while values were well maintained on practically everything but Chum talls, which at $19 seemed to have struck solid bottom. With most of the pack of all other species out of first hands, and trade inventories relatively light, a close cleanup before the 1949 pack is available was regarded as a certainty.

Strike Retarded Shipments

The waterfront strike, continuing from Sept. 2 to Dec. 4, not only retarded deliveries when the goods were most wanted, but seriously hampered the movement of the pack from Alaska. A substantial part of the Red pack had fortunately been shipped earlier; but the bulk of Central and Southeast Alaska's late and mid-season pack was long tied up at canneries or aboard ships in Puget Sound, which were not allowed to unload. This had a deterrent effect on sales, as many packers were reluctant to take orders except for goods actually in hand, inspected and available for shipment.

At first even salmon on the Seattle docks was tied up, though substantial quantities continued to go out through Bellingham, Anacortes, etc., where goods previously landed were not interfered with. Shipments from Seattle were resumed Sept. 20, and early in November several vessels were unloaded, though more than ½-million cases were still tied up when the strike ended. It was estimated that well over 750,000 cases were held aboard the ships through October.

The bulk of the Southeast Alaska pack was moved in bond through Prince Rupert, B. C., although this involved much delay and difficulty in inspection, labeling, etc.

Exports Greatly Curtailed

Salmon exports for the first 8 months of 1948 amounted to only 40,496 cases. This, of course, was of the 1947 pack, from which some 237,000 cases were also exported in September-December, 1947—including nearly 160,000 cases to U. K. By comparison, about 1,045,000 cases (1946 pack) were exported in the first 8 months of 1947, including over 780,000 cases to Britain.

Practically nothing went to U. K. in 1948, that nation having issued no import licenses for canned fish through the year. Export data for the latter part of 1948 were lacking at presstime, but more recent shipments are known to have been of no great volume; all indications being that total exports from the 1948 pack will be small and scattering.

Britain also suspended its normal heavy imports from Canada, leaving British Columbia canners almost entirely dependent on their domestic market. While their pack was light and their market responded very well, some Canadian Pinks were imported to the Pacific States during the fall; and late in the fall there was talk of British Columbia Chums (largest item in the province's pack, with little demand in Canada) being marketed in the United States.

U. S. government buying was a factor of some importance, with substantial purchases during the spring helping to clean up the 1947 pack. Army requirements from the 1948 pack were first estimated at about 215,000 cases; but the Army was designated as procurement agency for some other services, including the Navy and foreign relief, and came into the market for over 300,000 cases—a considerable increase over the previous year.

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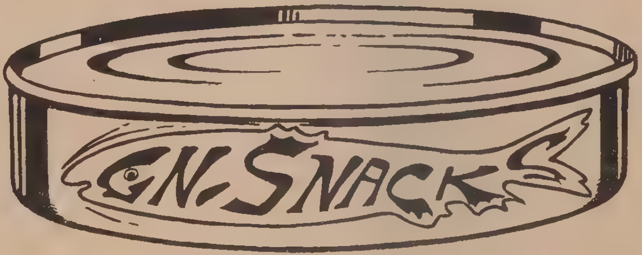

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With currency restrictions blocking salmon exports to the United Kingdom for the first time in history, the British Columbia industry was faced with an extraordinary marketing situation for its 1948 canned salmon pack.

This crisis was contained, however, because Canada's domestic market proved capable of absorbing the short pack of Sockeyes available. At the same time, general salmon scarcity permitted export marketing of the Pinks and Chums.

Marked concern is admitted by the Canadian packers when they consider the future, unless it brings liberalization of the British fiscal policy.

For the first time within the memory of any Canadian fish packer, no British Columbia canned salmon was exported to the United Kingdom from the 1948 pack. This unusual and disappointing feature dominated the British Columbia salmon market during the past season.

In addition to losing the United Kingdom as a customer, exchange and currency difficulties separated British Columbia from other important buyers in the British Commonwealth notably South Africa. Had financial complications not arisen that might have absorbed some $2,000,000 worth of B. C. canned salmon in 1948.

Empire Buying Curtailed

The South African ban on importation of goods from hard currency countries such as Canada went into effect November 5, 1948, and only a small quantity of B.C. canned salmon from the 1948 pack had entered that market by that date.

Australia, New Zealand and other countries on a sterling basis also curtailed their buying in Canada. Tariff duties largely kept B.C. canned salmon out of the United States, as in other years, and the other available markets were relatively unimportant. There were indications that Belgium would take a fair quantity, and there were trade possibilities with some South American countries, notably Venezuela, one of the few nations in this hemisphere with a surplus of dollars.

Empire Action Not Disastrous

Strangely enough, in spite of British Columbia's enormous volume of business to the United Kingdom in canned salmon over the years, the loss of this market in 1948 was not serious. Canada's own domestic market readily absorbed virtually the entire pack of Sockeye salmon. About the only B.C. canned *Sockeye* that was exported was purchased early in the season for export to South Africa and reached there before the ban on imports became effective. This was a special deal made by a British house that in previous years had been selling the South African market with its own brand of salmon originating in Japan or Russia. In 1948 those sources were not available, so B.C. did a pinch hitting job, but only to the extent of about 15,000 cases.

But so far as exports were concerned, most of the grades sold were in Pinks or Chums. There was a big Chum pack and several shippers sent substantial quantities to the United States frozen, although it was difficult to ascertain the actual volume. Chums were the only grade exportable in the frozen state from British Columbia after September 1. A seasonal embargo applied to Chums as well as other grades prior to that time so as to insure adequate supplies for Canadian canneries.

Concern Felt for Future

While the loss of the United Kingdom sales did not produce a critical situation in British Columbia this year because of the ready market in Canada and the moderate pack of Sockeyes, this did not alter the fact that a trading condition existed which over the years could not easily be tolerated. As a result of currency restrictions, British Columbia had been shut out of all her traditional big markets. In the case of the United Kingdom, the contrast with previous seasons was indeed striking. Before World War II Britain was the major buyer of British Columbia salmon, chiefly Sockeye, the Empire tariff preference having buttoned up that market for Canada in the early 1930's. When the war broke out and the United Kingdom was shut off from other sources of supply British Columbia began shipping practically all her canned salmon to the British Ministry of Food. In 1941, despite the fact that the pack seldom went much higher than 1,500,000 cases altogether, that amount was assured to Britain as a priority commitment before the domestic market was supplied. The following year every can of salmon packed in B.C. went to Britain.

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peace did the Canadian domestic market receive more than a token allotment of B.C. canned salmon. Last year, after originally asking for 70% of the total B.C. pack, Britain trimmed its order to barely 10% and would have even passed that up except for the possibility of inconveniencing packers who had already prepared to fill the order. The reason for the drastic curtailment, of course, was the shortage of dollars and Britain's necessity to conserve exchange by buying, wherever possible, in sterling countries.

PRICES FOR BRITISH COLUMBIA CANNED SALMON, 1942-1948

(Per Case of 48 Talls or 1-lb. Flats; 96 Halves; 96 Quarters)

Variety—	Talls or Flats, 1-lb.	Flats, ½-lb.	Flats, ¼-lb.
Sockeye—Grade A:			
1948	**$28.50**	**$30.00**	**$17.50**
1947	23.50	25.00	15.00
1946-c	18.90	20.30	....
1945-46-b..	17.65	18.90	11.20
1942-44-b..	16.25	17.50	10.50
Grade B, and Grade A Tips & Tails: (No Grade B packed in 1948)			
1947	$18.70	$20.25	$12.52½
1946-c	14.90	16.30	....
1945-46-b..	13.85	15.15	9.30
1942-44-b..	12.75	14.00	8.75
Coho, Blueback, Spring (Red Pink and Jack) and Steelhead—Grade A:			
1948	**$24.50**	**$26.00**	**$15.25**
1947	20.00	21.50	13.00
1946-c	13.90	15.25	....
1945-46-b..	12.90	14.15	8.82½
1942-44-b..	11.50	12.75	8.12½
Grade B, and Grade A Tips & Tails: (No Grade B packed in 1948)			
1947	$17.30	$18.85	$11.75
1946-c	12.10	13.50	....
1945-46-b..	11.20	12.50	8.00
1942-44-b..	10.00	11.25	7.27½
Pink—Grade A:			
1948	**$16.50**	**$18.00**	....
1947	12.50	14.50	....
Grade B, and Grade A Tips & Tails: (No Grade B packed in 1948)			
1947	$11.85	$13.10	$8.57½
Chum—Grade A:			
1948	**$15.00**	**$16.50**	....
1947	12.00	13.50	....
Pink, Chum and White Spring—Grade A:			
1946-c	$8.30	$9.70	....
1945-46-b..	7.65	8.90	$5.70
1942-44-b..	6.25	7.50	5.00
Grade B, and Grade A Tips & Tails:			
1946-c	$7.35	$8.75	....
1945-46-b..	6.75	8.00	$5.25
1942-44-b..	5.50	6.75	4.62½

NOTE: Quotations for 1948 and 1947 packs represent packers' opening prices to the domestic market.

Prices marked "c" were established by the Canadian government in December, 1946. for sales to the domestic trade, but are also roughly equivalent to those received for export to the United Kingdom, etc. Prices marked "b" were those paid by the British Ministry of Food in 1945-46 and 1942 to 1944.

Possible Political Angles

In 1948, the United Kingdom government made it quite clear that no canned salmon would be bought under present exchange conditions in British Columbia at all. Vancouver brokers and packers realized that there was little or no hope of doing business with the United Kingdom or other sterling markets unless Canada made some readjustment in trading and fiscal policy designed to enable those countries to buy without draining their reserves. Additional Canadian loans were looked upon as the most likely advice so far as the United Kingdom was concerned, although to some authorities it seemed as though Britain's reluctance to do business might stem from political as well as financial considerations. The tendency of the British Socialist government has been to broaden the base of supply of raw materials without regard to whether the source was within the British Commonwealth or not. The Conservatives were the party that created and maintained the Empire tariffs which proved so beneficial to Canada's export trade. But the Conservatives in 1948 were the opposition party, powerless to determine policy.

Despite some early-season suggestions that the Marshall Plan might result in shipping B.C. salmon to Europe, nothing had materialized on this score as the year ended.

1948-49 CANADIAN CANNED HERRING MARKET

British Columbia's herring canners entered the 1948 season with a carry-over of some 150,000 cases unsold from the 1947 pack, and with small prospect for substantial sales of new pack anywhere.

Consequently, very small quantities of B.C.-caught herring were canned, the estimate being that during the entire 1948-49 season probably not more than 50,000 cases would be canned. Such as it was, the pack was more selective than usual and packers planned to make a much more determined effort than in the past to market canned herring in the domestic market.

This new objective was more or less mandatory because of the sharp falling off in demand from overseas. For the past seven years the United Kingdom had taken more than a million cases of canned herring annually; the trade was a wartime development resulting from restrictions on Britain's traditional sources of supply. With the wartime shortage of material over and the new shortage of dollars casting its shadow on world markets, the British Columbia herring canner had nowhere to look for relief. As the year 1948 drew to a close, what little prospect there had been of substantial orders for canned herring from some overseas relief agencies began to fade.

In view of this situation, in such sharp contrast to what it had been since the early war years, British Columbia's herring was largely diverted to the reduction plants for the manufacture of oil and meal.

With the promise of a total catch well up to previous averages and very little of it being canned, the prospects were for the biggest total production of oil and meal in many years. The sales outlook for these commodities was regarded as generally favorable, for while the prices offered for herring meal were slightly less than in the previous year, herring oil prices were higher.

About 14 plants operated on herring during the past season, with most of the major companies participating. But only three companies canned herring — Nelson Fisheries, Ltd., F. Millerd & Co., and J. H. Todd & Sons.

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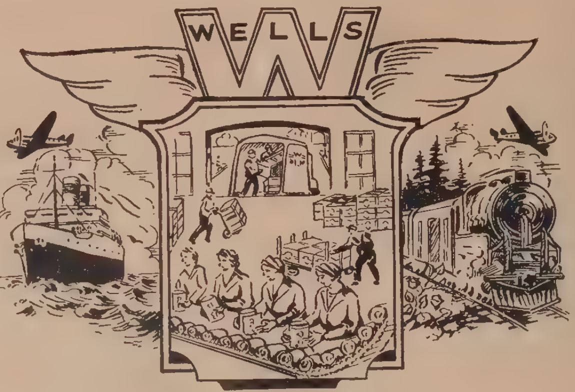

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CATCH OF FRASER RIVER SOCKEYE SALMON
By Four-Year Cycles, 1939 to 1948

The following figures, taken from reports of the International Pacific Salmon Fisheries Commission, represent the actual NUMBERS of Sockeye known to have been CAUGHT in waters covered by the Fraser River Sockeye Salmon treaty. Reliable catch statistics for years prior to 1939 are not available, but figures for the CANNED PACK appear on another page.

British Columbia	1939— 568,943	1940— 937,062	1941—2,116,723	1942—5,047,599
Washington	552,179	709,661	1,560,482	2,921,805
Total	**1,121,122**	**1,646,703**	**3,677,205**	**7,969,404**
British Columbia	1943— 349,011	1944—1,003,829	1945— 969,444	1946—4,239,622
Washington	242,822	436,182	716,685	3,551,761
Total	**591,404**	**1,440,011**	**1,686,129**	**7,791,383**
British Columbia	1947— 354,000	1948*— 739,849		
Washington	90,117	1,080,167		
Total	**444,117**	**1,820,016**		

*Figures for 1948 are preliminary, probably not quite complete.

Encouraging experience continued in 1948 with the Fraser River Sockeye Salmon enterprise in which the United States and Canada are engaged through the International Pacific Salmon Fisheries Commission.

At the end of the year it was reported that block conditions had prevailed at Hell's Gate throughout the entire period of the Sockeye run, but that the salmon had been able to pass without hindrance, due to the presence of the fishways erected there.

Escapement also showed encouraging increases in many of the tributaries, with the great Chilko run, of course, dominating the picture and receiving spawning escapement of 670,000 fish, as compared with 329,000 fish in the cycle year 1944.

Problem of equalizing the catch between the fishermen of the two countries again proved a knotty one for the commision in 1948, when for the first time since the commission was created the American pack was larger than that secured by the Canadians. (The treaty charges the commission with so regulating the catch as to provide equal division between the fishermen of the two participating nations.)

With the effectiveness of the fishways at Hell's Gate abundantly demonstrated in proven escapement, and with work well started on similarly removing other barriers through fishway construction, the commission's staff in 1948 was able to turn to another aspect of the problem—that of reseeding the vast spawning areas of the Fraser system which today are virtually barren of Sockeye, and of re-establishing runs in such great streams as the Quesnel, Driftwood, Stellako and Nechako.

Approximate Pack of Canned Salmon in British Columbia Later Than Mid-October in Recent Years

Year	*Grand Total*	*Chums*	*Cohoes*
1948 (10/ 9)	158,767	139,487	17,483
1947 (10/11)	58,198	51,851	4,936
1946 (10/12)	143,342	138,699	5,226
1945 (10/13)	72,000	56,000	10,000
1944 (10/14)	34,000	25,000	10,000
1943 (10/ 9)	139,000	131,000	5,000
1942 (10/10)	350,000	324,000	11,000
1941 (10/11)	454,000	435,000	15,000
1940 (10/12)	242,000	213,000	20,000
1939 (10/14)	167,000	145,000	12,000
1938 (10/15)	198,000	175,000	10,000

This is a project calling for many years of work, and ample, continuing investment in an enterprise capable of returning rich dividends forever to the people of Canada and the United States.

The rebuilding of these runs involves complicated biological attack upon multiple problems, pursued over a period of many years, and supported by public interest and appropriation.

In 1948 it became more than ever evident that the Fraser River system is being threatened by power plant planners, and that first of all they are aiming at the Chilko, the home stream of the greatest remaining race of Fraser Sockeyes.

This has made it evident that the salmon are threatened by a new disaster, and that the people of Canada must demand that power be developed first and fully on barren streams, before the richest sources of the salmon are invaded.

Going into 1949, the Sockeye commission's task was plain:

To regulate the fishery in such a way as to permit adequate upstream escapement;

To continue construction which will eliminate blockades;

To publish its findings fully;

To point out the enormous economic loss which will result if salmon streams are to be destroyed for power while barren streams are unutilized;

To bring about the actual reestablishment of Sockeye runs into potentially productive areas which for one reason or another are practically barren.

Weekly Red Salmon Packs on Bristol Bay, 1939 to 1948

Compiled from U. S. Fish & Wildlife Service Statistics. Figures in parenthesis indicate dates in July. Figures in first line of table are for the total pack (in full cases of 48 lbs. net) to dates shown; those following show weekly packs.

TOTAL TO—	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948
July	(8)327,493	(6)221,687	(5)204,929	(4)149,175	(3)284,635	(8)431,421	(7)236,413	(6)241,948	(5)641,401	(3)482,252
July	(15)467,653	(13)139,853	(12)206,049	(11)142,145	(10)449,076	(15)347,149	(14)233,332	(13)241,405	(12)376,575	(10)464,488
July	(22)232,298	(20) 33,848	(19)127,573	(18) 93,174	(17)272,074	(22)116,514	(21) 84,681	(20) 88,520	(19)242,854	(17)169,806
July	(28) 15,740	(28) 4,606	(28) 31,316	(25) 44,323	(24)242,122	(29) 18,045	(28) 15,405	(27) 30,831	(26) 70,975	(24)112,111
To Close	....	....	....	7,357	27,174	....	....	....	3,226	7,680
TOTAL	**1,043,184**	**399,994**	**569,867**	**436,174**	**1,275,081**	**944,129**	**569,831**	**602,704**	**1,335,031**	**1,236,226**

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Four-Year Cycles of Fraser River-Puget Sound Sockeye Salmon Pack, 1895 to 1948

Statistics represent 48-lb. cases of Sockeyes caught in the Fraser River district of British Columbia and adjacent waters of the state of Washington, whether canned in those districts or elsewhere—and not including other Sockeye canned in those districts. This accounts in large part for the discrepancy between these statistics and those appearing elsewhere in this issue.

British Columbia	1895—	395,984	1896—	356,984	1897—	860,459	1898—	256,101
Washington		65,143		72,979		312,048		252,000
Total		**461,127**		**429,963**		**1,172,507**		**508,101**
British Columbia	1899—	480,485	1900—	229,800	1901—	928,669	1902—	293,477
Washington		499,646		228,704		1,105,096		339,556
Total		**980,131**		**458,504**		**2,033,765**		**633,033**
British Columbia	1903—	204,809	1904—	72,688	1905—	837,489	1906—	183,007
Washington		167,211		123,419		837,122		182,241
Total		**372,020**		**196,107**		**1,674,611**		**365,248**
British Columbia	1907—	59,815	1908—	74,574	1909—	585,435	1910—	150,432
Washington		96,974		170,951		1,097,904		248,014
Total		**156,789**		**245,525**		**1,683,339**		**398,446**
British Columbia	1911—	58,487	1912—	123,879	1913—	719,796	1914—	198,183
Washington		127,761		184,680		1,673,099		335,230
Total		**186,248**		**308,559**		**2,392,895**		**533,413**
British Columbia	1915—	91,130	1916—	32,146	1917—	148,164	1918—	19,697
Washington		64,584		84,637		411,538		50,723
Total		**155,714**		**116,783**		**559,702**		**70,420**
British Columbia	1919—	38,854	1920—	48,399	1921—	39,631	1922—	51,832
Washington		64,346		62,654		102,967		48,566
Total		**103,200**		**111,053**		**142,598**		**100,398**
British Columbia	1923—	31,655	1924—	39,743	1925—	35,385	1926—	85,689
Washington		47,402		69,369		112,023		44,673
Total		**79,057**		**109,112**		**147,408**		**130,362**
British Columbia	1927—	61,393	1928—	29,299	1929—	61,569	1930—	103,692
Washington		97,594		61,044		111,898		352,194
Total		**158,987**		**90,343**		**173,467**		**455,886**
British Columbia	1931—	40,947	1932—	65,769	1933—	52,465	1934—	139,238
Washington		87,211		81,188		126,604		352,579
Total		**128,158**		**146,957**		**179,069**		**491,817**
British Columbia	1935—	62,822	1936—	184,854	1937—	100,272	1938—	186,794
Washington		54,677		59,505		60,259		134,641
Total		**117,499**		**244,359**		**160,531**		**321,435**
British Columbia	1939—	54,296	1940—	99,009	1941—	171,290	1942—	446,371
Washington		43,511		59,354		110,605		263,458
Total		**97,807**		**158,363**		**281,895**		**709,829**
British Columbia	1943—	31,973½	1944—	88,515	1945—	77,412½	1946—	331,292
Washington		19,179		37,509		53,054		280,018
Total		**51,152½**		**126,024**		**130,466½**		**611,310**
British Columbia	1947—	27,857	1948*—	61,654				
Washington		7,516		83,933				
Total		**35,373**		**145,587**				

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*Figures for 1948 are approximate only.

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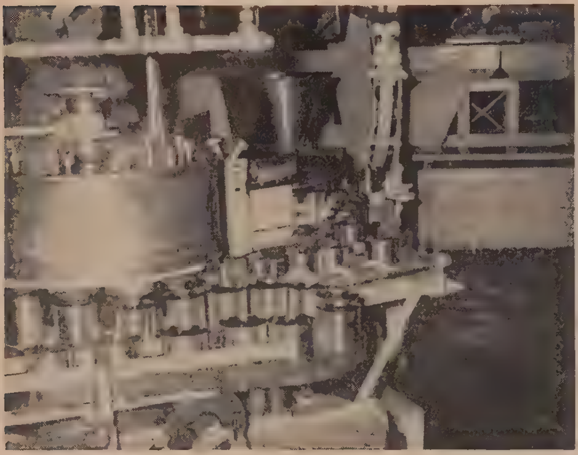

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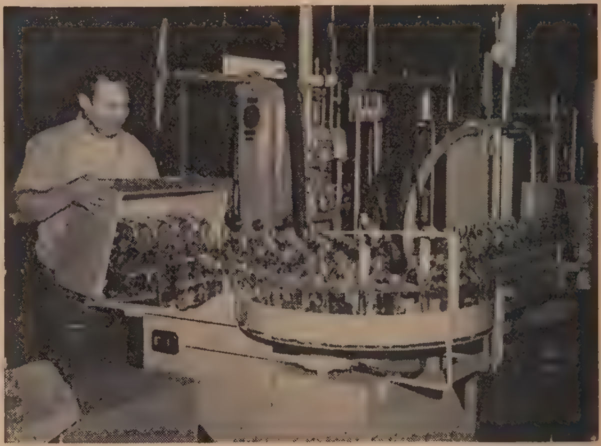

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SALMON ESCAPEMENT OVER BONNEVILLE DAM

(In numbers of fish as recorded by U. S. Engineers)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
CHINOOK													
1938	*	*	*	*	22,371	8,221	6,556	34,765	197,294	2,302	263	27	271,799
1939	6	12	121	51,410	25,159	5,602	17,845	32,919	150,851	2,197	78	16	286,216
1940	....	....	504	37,253	28,621	7,028	14,938	58,643	240,515	3,765	287	34	391,588
1941	4	....	1,360	51,501	19,445	7,013	9,395	12,590	351,967	7,179	866	138	461,458
1942	1	15	34	9,506	30,915	11,816	12,821	27,581	305,935	4,485	639	190	403,938
1943	11	6	43	12,172	53,268	5,440	8,044	28,985	201,414	3,354	365	21	313,123
1944	1	2	65	15,670	15,127	4,363	8,241	55,468	139,254	2,388	164	20	240,763
1945	6	4	81	17,148	26.276	11,293	16,327	32,254	189,675	4,281	137	6	297,488
1946	1	2	25	14,179	53,313	30,051	20,960	45,421	277,075	4,521	170	25	445,743
1947	....	2	141	83,520	49,899	25,502	13,358	43,062	260,385	3,945	526	36	480,376
1948	10	....	251	21,205	20,262	44,137	23,100	35,934	270,238	3,928	467	....	†419,532
STEELHEAD													
1938	*	*	*	*	6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003
1939	23	19	560	8,110	1,587	1,490	36,581	38,062	33,891	1,264	216	119	121,922
1940	5	96	1,688	4,125	998	4,489	61,175	46,071	64,377	1,786	292	59	185,161
1941	37	76	1,641	6,392	1,518	994	21,940	29,600	50,542	3,980	1,063	304	118,087
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	76,622	2,411	566	182	151,345
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	92	92,131
1944	50	157	1,019	6,142	2,227	1,169	21,868	24,508	35,907	6,129	1,119	226	100,521
1945	1,003	1,078	3,066	4.685	1,557	1,109	24.600	40.483	40,194	1,925	302	142	120.144
1946	63	551	3,040	9,839	5,481	3,265	20,559	58,356	38,296	2,067	262	769	142.548
1947	197	321	1,968	6,889	2,025	1,595	28.134	40.819	50,025	2,905	443	113	135,434
1948	154	119	1,631	4,473	1,170	1,895	33,191	53.621	40,609	1,742	381	....	†138,986
SILVERS													
1938	*	*	*	*	....	....	....	3,070	10,995	972	141	7	15,185
1939	3	....	....	....	....	....	....	1,810	12,226	310	15	18	14,382
1940	3	....	....	....	....	....	....	1,451	10,212	213	33	5	11,917
1941	2	....	....	....	....	....	....	1,317	16,061	369	160	2	17,911
1942	....	....	....	....	....	....	....	1,193	11,061	147	....	....	12,401
1943	....	....	....	....	....	....	....	762	1,676	89	20	....	2,547
1944	....	....	....	....	....	....	....	1,052	3,022	103	29	2	4,208
1945	....	....	....	....	....	....	2	239	533	16	....	1	791
1946	....	10	4	....	....	....	22	227	3,609	1	....	24	3,897
1947	12	2	1	....	....	....	....	217	10,928	10	3	1	11,174
1948	1	....	....	....	....	....	11	158	3,893	10	3	....	†4,076
BLUEBACK													
1938	*	*	*	*	1,025	17,811	53,864	2,097	235	6	2	....	75,040
1939	....	....	....	48	189	29,386	43,124	616	19	....	....	....	73,382
1940	....	....	....	....	206	59,639	85,885	3,063	11	1	....	....	148,805
1941	....	....	....	299	1,052	23,536	39,193	1,615	50	....	....	....	65,745
1942	....	....	....	....	13	12,624	41,301	1,477	60	....	....	....	55,475
1943	....	....	....	....	9	4,525	33,613	1,697	1	....	....	....	39,845
1944	....	....	1	....	16	3,098	11,171	659	126	....	....	....	15,071
1945	....	....	10	51	521	1,507	6,903	498	10	1	....	....	9,501
1946	....	....	....	9	67	7,805	64,704	1,746	21	2	....	....	74,354
1947	....	....	....	....	5	59,378	108,175	3,564	15	1	....	1	171,139
1948	....	....	....	....	....	12,023	117,652	1.849	13	4	....	....	†131,541
CHUMS													
1938	*	*	*	*	....	....	....	....	....	1,245	799	73	2,117
1939	2	....	....	....	....	....	....	....	6	700	411	49	1,168
1940	....	....	....	....	....	....	....	....	....	860	835	34	1,729
1941	....	....	....	....	....	....	....	1	....	1,116	4,130	23	5,270
1942	....	....	....	....	....	....	....	....	....	700	1,149	16	1,865
1943	....	....	....	....	....	....	....	....	....	125	623	42	790
1944	1	....	....	....	....	....	....	....	....	191	666	96	954
1945	2	....	....	....	....	....	....	....	2	118	585	20	727
1946	....	....	....	....	....	....	....	....	3	303	809	63	1,178
1947	....	....	....	....	....	....	....	1	2	60	110	29	202
1948	....	....	....	....	....	....	....	....	....	192	2,966	....	†3,158
TOTAL ESCAPEMENT BY MONTHS													
1938	*	*	*	*	30,018	28,414	79,875	69,163	255,142	6,789	1,544	199	471,144
1939	34	31	681	59,568	26,938	36,478	97,550	73,407	196,993	4,471	720	202	497,070
1940	8	96	2,192	41,378	29,825	71,156	161,998	109,228	315,115	6,625	1,447	132	739,200
1941	43	76	3,001	58,192	22,015	31,543	70,528	45,123	418,620	12,644	6,219	467	668,471
1942	5	52	290	13,148	35,087	26,028	74,027	72,224	393,678	7,743	2,354	388	625,024
1943	25	24	697	15,546	57,975	11,529	49,412	61,338	244,142	6,012	1,581	155	448,436
1944	52	159	1,085	21,812	17,370	8,630	41,280	81,687	178,309	8,811	1,978	344	361,517
1945	1,011	1,082	3,157	21,884	28,354	13,909	47,832	73,474	230,415	6,341	1,024	169	428,651
1946	64	563	3,069	24,027	58,861	41,121	106,245	105,750	319,004	6,894	1,241	881	667,720
1947	209	325	2,110	90,409	51,929	86,475	149,667	87,663	321,355	6,921	1,082	180	798,325
1948	165	119	1,882	25,678	21,432	58,055	173,954	91,563	314,754	5,876	3,817	....	†697,295

*Data not available. Figures for 1938 are from May 7 to December 31, inclusive. †Eleven-month total.

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North Pacific canned shellfish markets moved firmly through 1948 and, except for crab, entered 1949 at equal or higher levels than those of a year before.

Canned crab producers put up a heavy pack of the Pacific variety in 1948, and the market slackened slightly, but to a lesser degree than might well have been expected.

Clams and oysters actually firmed in 1948, and were strong going into 1949. This condition doubtless resulted primarily from a combination of circumstances which concentrated the relatively small packs in a few strong hands.

CANNED CRAB

Canned crab trading entered 1949 in a very different situation from that prevailing a year before, for 1949 opened with fair quantities of canned crab still available. At the start of 1948 every packer had a substantial backlog of orders waiting to be filled—for there had been no crab available for first sales since October, 1947.

Not so this year.

In 1948 the Pacific crab canning industry produced more than 180,000 cases—very much the largest pack in history.

Moreover, to the domestic production must be added some 50,000-plus cases of Japanese canned crab imported to Pacific Coast ports. Additional quantities undoubtedly entered Atlantic ports.

Crab Orders Booked in Advance

As mentioned previously, virtually every established crab canner entered 1948 with a file of orders to be filled, and at prices from $24 to $25, most of them probably at or about the latter figure.

The evident strong market attracted an exceptionally long list of packers, and in the Oregon-Washington fisheries at least the early 1948 crabs were exceptionally large, clean and heavy. Better crabs were never seen at that season, and they built-up the pack rapidly.

May Price Shows Decline

By May the market showed definite signs of weakening under the impact of the largest production which the industry had ever known. However, there was no runaway pricing and the lowest figure at which business is known to have passed was $22.50.

Dipping tendency was checked by active buying at the low levels and the market firmed. By mid-July the amount available at $23 was scant, and the better-known brands were firm at $24. In-between trading was rather active. While the substantial volume of production delayed sell-out, there was a steady movement through the balance of the year, with $23.50 considered as "the market," although in December some of the larger lots were firmly held at $24.

King Crab Sells Readily

The first commercial, domestic pack of King crab to come on the American market was that produced in 1948 by the factory ship *Pacific Explorer*, operated by the Pacific Exploration Co. for the Reconstruction Finance Corporation.

This pack, in two grades, depending upon the proportion of leg and body meat, went to market promptly at $26.50 and $24.50 per case.

These prices were closely in-line with those reported for the 50,000-plus cases of Japanese crab imported and sold during the year. This crab is said to have been sold largely on the basis of $52 per case of 96 halves. Initial sales were reported at $54, but this figure soon gave place to $52.

1949 Market Prospect Easier

While it was far too early as this was written to form any idea as to the probable opening prices for 1949-pack crab, packers and distributors were inclined to feel that the level would be somewhat lower than in 1948. They based this opinion primarily upon the carryover of some portion of the 1948 pack to the end of that year.

Experience in California also had an influence. With the opening of the San Francisco season in November there was a concentration of fishing vessels at that point which flooded the market and drove the price to the lowest levels in a long time. While crab canning did not begin until well along into December, the excess of crabs in the San Francisco area was so great that they were shipped north and laid-down in Seattle at prices below those which had been prevailing for Puget Sound crabs.

CANNED CLAMS

The market for canned razor clams performed a comeback miracle in

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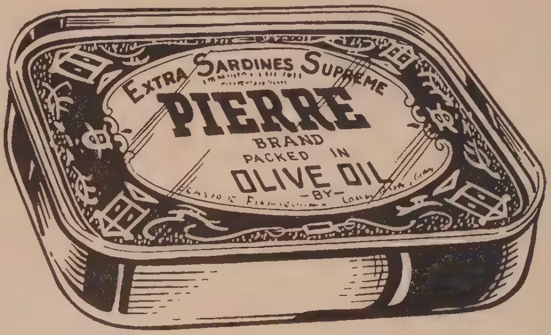
OLIVE OIL SARDINES

(Packed in Quarter Oil Cans)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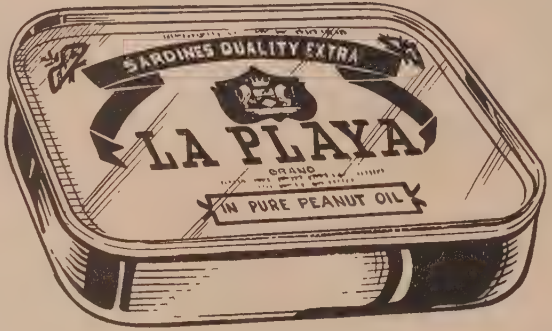
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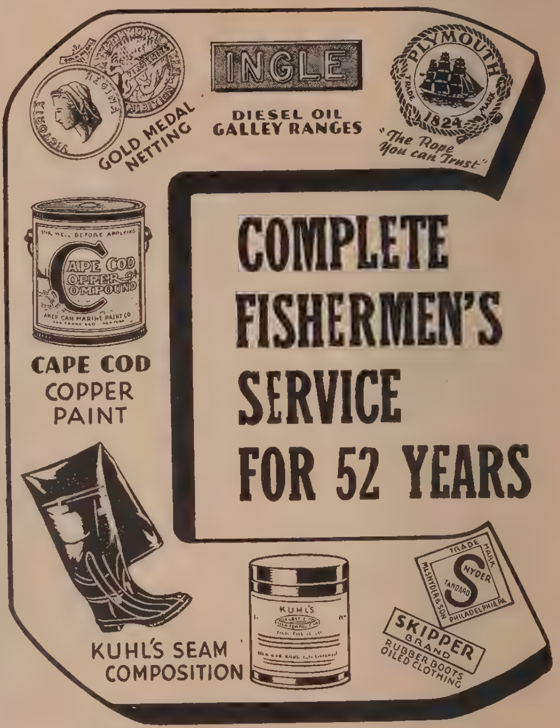
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- Rubber Impeller Pumps
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1948 — Weighted Average Shellfish Prices at Seattle — 1948

Shellfish	Unit	Dec. 1947	Jan. 1948	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
		Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Clams, butter, in shell	Pounds		.065	.065	.065	.065						.065	.065
Clams, butter, (meats)	Sacks	6.60											
Clams, little neck	Pounds		.075	.075	.075	.075						.078	.075
Clams, razor, in shell	Pounds				.16	.16							.16
Clams, B. C. import	Pounds												
Clam meat, local	Gallons		2.97		6.70								
Clam meat, import	Pounds												
Crabs, Dungeness	Dozen	2.10	2.31	2.39	2.45	2.85	2.50	2.50	2.75	2.75	2.75	2.75	2.25
Crabs, Dungeness, import	Pounds												
Crab meat	Pounds	.75	.75	.80	.76	.75	.76	.78	.85	.85	.85	.90	.85
Crab meat, frozen	Pounds												
Lobsters	Pounds												
Lobster Tails													
Octupus, Round	Pounds	.04	.04	.046	.046	.04	.04	.045	.04	.05	.05	.05	.05
Oysters, shucked:													
Eastern	Gallons	7.00	8.00	9.00	9.00	9.00						7.00	8.25
Olympia	Gallons	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Pacific	Gallons	3.25	3.27	3.28	3.31	3.26	3.26	3.27	3.35	3.29	3.45	4.00	4.08
Scallops, Bay	Gallons	5.00	5.47	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Scallops, frozen	Pounds												
Shrimp, Local	Pounds	.20				.36	.35	.31	.35	.35			.35
Shrimp, Gulf	Pounds												
Shrimp, frozen	Pounds												
Shrimpmeat	Pounds												
Squid, Round	Pounds	.08											
Squid, Calif., Round	Pounds												

1948, but only as result of a severely short, closely concentrated pack.

In the spring of the year, prior to initiation of packing, razor clams were quoted widely at $11 per case, the lowest figure they had reached in a number of years. Goods from 1947 packing were still on hand.

Washington clam canning was at a minimum level in 1948. The quota was cut to 1,200,000 lbs., and excessive competition developed from crab bait buyers, who eventually secured at least half of the total dig, while they bid the price up to as high as 22c per lb. on the beach. Opening price was 14c, and stood at 15c or better through the season.

At this price, and with the competition of bait buyers, the fresh clam trade, and not a little freezing of fancy clams in packages, there was very little canning.

Alaska production also was delayed by a controversy over price, and there was no canning of consequence in the Cordova district until May 24. With the season closing June 30 and few favorable tides during the interim, production failed to fill the 40,000-case quota.

Packs representing the great majority of the production were sold through G. P. Halferty & Co. Under short pack conditions, trading opened at $14.85 per case, and moved up later to $15.85, where the market stood at the end of 1948.

CANNED OYSTERS

Bureaucracy took a hand in shaping the 1948 Pacific canned oyster market — just as bureaucracy destroyed Pacific oyster canning during the day of OPA.

This time it was Food and Drug Administration.

It is insisting upon a standard which requires a cut-out weight of 6½ oz. to the No. 1 E.O. tin, regardless of the fact that average Pacific oysters cannot be packed so tightly in the tin without serious impairment of quality.

This order was challenged in court by Willapoint Oysters, Inc., which secured a federal court order staying the Food and Drug ruling until a determination could be reached on the law and merits of the case.

Food and Drug Administration held in the fall of 1948 that this stay applied only to Willapoint Oysters, Inc., although there is nothing in the court order which so confines its application.

The result was that as this review was written no packer other than the plaintiff in the case had felt warranted in risking action by Food and Drug despite the court order which permits Willapoint to pack oysters which average more than a half-ounce each to give a cut-out weight of 5 oz. to the No. 1 E.O. tin.

Under these restrictive conditions prices quoted by the one company in a position to quote at the end of the year 1948 were:

$26 per case of 48 No. 1 tall cans.
$18 per case of 48 No. 1 E.O. cans.
$15 per case of 48 211x304 "Buffet" cans.

All quotations were on the basis of cans *delivered.*

Although the above quotations were on the basis of cases of 48 cans, it is interesting that this packer is putting its entire production in cases of 24 cans. This is in response to buyer preference in the Pacific Coast market. Off the coast the buyers are reported still accustomed to the 48-can case, but trending toward the smaller unit package.

The "Buffet" tin is also something of an innovation, and is being used principally for packing the smaller sizes of oysters. As a matter of fact, Willapoint is using its three can sizes as a basis of size grading. Objective is to place about seven oysters to the tin, with the smaller oysters going into the Buffet tins, slightly larger into No. 1 E.O., and large oysters into No. 1 Tall.

Approximately 10 of current production is reported to be going into No. 1 Talls.

CANNED SQUID

There was no inventory of squid in California canners' hands as 1948 opened. The market was firm and had gone to $7-$7.50 per case.

No fish were caught until late March and early April. The price had been $60 per ton to fishermen. With March and early April the price of canned squid skidded from $7-$7.50 per case to $3.50-$3.75 per case, and the price of the fish to the fishermen went to $20 per ton.

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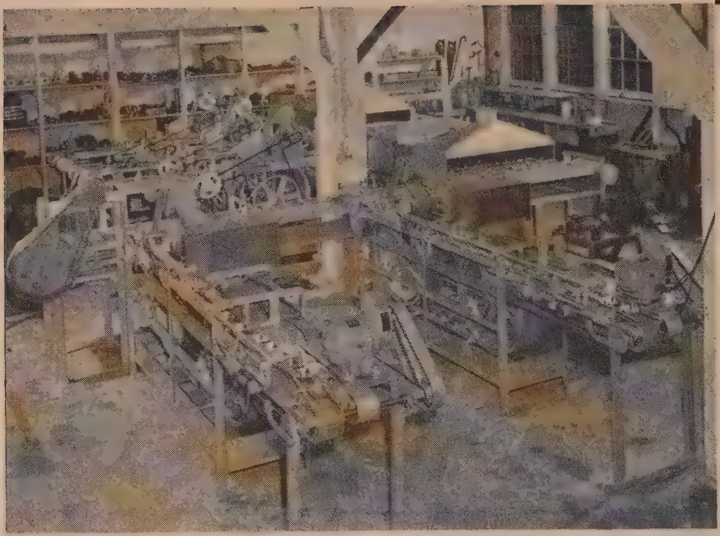
PENINSULA PACKING CO.

MONTEREY, CALIFORNIA

California Canned Fish Packs

Kind of Fish and Can Size	1937 Cases	1938 Cases	1939 Cases	1940 Cases	1941 Cases	1942 Cases	1943 Cases	1944 Cases	1945 Cases	1946 Cases	1947 Cases
ALBACORE:											
4-lb. 12s	.....	1,253	2,888	2,341	1,068	.....	.....	.....	.....	.....	.....
1-lb.	11,744	23,995	29,625	13,275	14,761	3,376	19,715	14,973	.....	.....	990
½-lb.	79,202	232,546	309,296	120,063	69,664	235,171	406,020	420,140	480,615	381,271	285,282
¼-lb.	213	31,595	14,866	10,062	6,747	958	6	10	.....	.....	.....
Total Albacore	**91,159**	**289,389**	**356,675**	**145,741**	**92,240**	**239,505**	**425,741**	**435,123**	**480,615**	**381,271**	**286,272**
ANCHOVY:											
No. 10 and 1-lb.	.....	.....	.....	.....	.....	.....	.....	.....	.....	749	33,839
½-lb. and ¼-lb.	.....	.....	.....	.....	.....	.....	.....	.....	.....	801	152,576
Total Anchovy	.....	.....	.....	.....	.....	.....	.....	.....	.....	**1,550**	(c) **186,415**
BONITO:											
1-lb.	23,613	33,817	37,187	25,535	47,967	1,022	352	.....	321	2,697	10,632
½-lb.	100,530	87,469	115,687	50,773	112,078	31,266	34,920	8,490	49,495	105,609	233,362
¼-lb.	1,430	942	.....	1,012	1,145	.....	353	.....	.....	.....	.....
¼-lb. 100s	3,999	3,626	6,216	10,047	15,669	.....	.....	.....	.....	.....	.....
Total Bonito	**129,572**	**125,854**	**159,090**	**87,367**	**176,859**	**32,288**	**35,625**	**8,490**	**49,816**	**108,306**	**243,994**
CLAMS: ½-lb.	.....	.....	.....	.....	.....	.....	**11,131***	**45,206**	**225,431**	**39,944**	**6,556**
CRAB: ½-lb.	.....	.....	.....	.....	.....	.....	.....	.....	.....	**15,195**	**6,141**
MACKEREL:											
1-lb.	771,553	878,299	945,686	1,372,274	837,651	601,491	839,312	973,098	587,959	682,896	1,456,259
½-lb. 96s	13,399	70,109	20,243	56,737	4,652	112,699	.....	13,324	1,624	.....	13,225
½-lb.	8,624	10,482	2,600	6,031	1,444	.....	.....	.....	34	(a) 33,772	(d) 52,715
Total Mackerel	**793,780**	**958,890**	**968,718**	**1,435,113**	**843,747**	**614,090**	**839,312**	**986,422**	**589,617**	**716,668**	**1,522,199**
SALMON:											
1-lb.	147	.....	.....	.....	1,125	.....	.....	.....	.....	248	6,345
½-lb.	.....	.....	.....	.....	.....	.....	.....	796	4,198	7,935	11,617
¼-lb. 100s	.....	.....	.....	.....	.....	.....	1,475	895	1,259	1,634	792
Total Salmon	**147**	.....	.....	.....	**1,125**	.....	**1,475**	**1,691**	**5,457**	**9,817**	**18,754**
SARDINE:											
No. 10 6s	4,800	8,670	15,180	10,939	9,632	1,106	32,523	71,002	70,310	883	.....
1-lb. ovals	1,441,093	1,321,568	1,876,271	1,598,196	2,290,716	1,422,789	1,445,955	1,485,811	1,211,361	725,071	620,676
1-lb. tall	869,844	376,859	619,145	648,155	1,963,472	2,006,561	1,679,945	2,052,469	2,431,521	2,245,377	873,934
½-lb.	25,364	34,166	49,854	26,439	85,131	9,990	28,460	25,578	2,289	54,025	227,705
½-lb. oval	1,528	4,827	8,129	3,497	3,417	.....	.....	.....	.....	.....	.....
½-lb. 96s	289,887	277,490	284,368	359,135	362,517	121,324	99,559	59,547	50,634	57,974	19,327
½-lb. fillet	74,368	97,277	141,900	151,518	182,703	75,386	44,935	20,584	86,386	10,735	10,967
10-oz.	5,098	5,751	12,350	4,021	20,561	.....	3,514	.....	28,992	.....	.....
5-oz. 100s	268,226	316,733	316,289	382,683	447,952	185,427	46,787	374	.....	.....	57,260
¼-lb.	2,103	.....	148	247	10,079	.....	.....	.....	.....	.....	.....
¼-lb. 100s	893	128	2,528	3,259	19,104	24,252	18,428	10,292	3,089	8,167	4,181
Total Sardine	**2,983,204**	**2,443,469**	**3,326,162**	**3,188,089**	**5,395,284**	**3,846,785**	**3,400,106**	**3,725,657**	**3,884,582**	**3,102,232**	**1,814,050**
SHAD:											
1-lb.	4,677	7,655	9,193	12,187	.....	20,058	11,516	12,541	.....	.....	344
½-lb.	1,684	3,589	3,472	3,556	68	4,887	.....	.....	.....	(b) 589	1,434
½-lb. roe	100	100	150	100	16	.....	.....	.....	540	.....	3
SQUID:											
9 and 7-oz.	5,531	20,167	23,926	34,603	21,587	941	.....	7,701	.....	24,946	.....
1-lb.	.....	.....	.....	.....	.....	.....	112,255	134,107	184,141	618,897	229,967
½-lb.	.....	.....	.....	.....	.....	.....	6,982	.....	.....	.....	.....
Total Squid	.....	.....	.....	.....	.....	.....	**119,237**	**141,808**	.....	**643,843**	**229,967**
SWORDFISH: ½-lb.	.....	445	.....	.....	.....	.....	.....	.....	.....	.....	.....
TUNA—BLUEFIN:											
1-lb.	18,153	16,971	18,572	31,273	13,319	8,749	2,321	6,070	7,269	.....	111
½-lb.	161,345	262,486	169,927	233,853	125,525	249,566	172,544	367,934	290,589	333,001	370,782
12-oz.	629	734	.....	.....	.....	179	.....	.....	.....	.....	.....
¼-lb.	23,017	25,333	15,025	17,739	13,990	1,684	.....	.....	.....	.....	.....
¼-lb. 100s	12,391	17,674	14,952	30,345	15,868	18,920	.....	.....	.....	.....	.....
Total Bluefin	**215,535**	**324,198**	**218,476**	**313,210**	**168,702**	**279,098**	**174,865**	**374,004**	**297,858**	**333,001**	**370,893**
TUNA—SKIPJACK:											
1-lb.	31,162	20,648	21,987	45,536	25,307	11,456	5,837	3,409	1,512	.....	929
½-lb.	607,924	296,096	356,289	646,331	328,001	585,098	369,828	360,448	545,525	644,701	903,522
¼-lb.	38,952	19,954	25,140	47,974	52,666	101,854	6,275	.....	1,137	3,588	.....
¼-lb. 100s	85,878	36,074	66,154	96,382	27,055	21,166	1,227	.....	.....	.....	.....
Total Skipjack	**763,916**	**372,998**	**469,570**	**836,223**	**433,029**	**719,574**	**383,167**	**363,857**	**548,174**	**648,289**	**904,451**
TUNA—YELLOWFIN:											
4-lb. 12s	1,412	2,949	3,095	6,389	4,072	123	.....	.....	.....	.....	.....
1-lb.	132,653	93,838	121,060	124,750	171,982	24,506	65,457	74,993	81,202	3,761	15,010
12-oz.	1,290	1,820	1,467	677	1,565	1,919	.....	.....	.....	.....	.....
½-lb.	1,249,709	979,228	1,542,474	1,569,534	963,195	691,120	619,122	744,976	1,415,091	2,209,083	2,627,344
¼-lb.	187,164	195,854	221,464	254,750	167,173	32,834	11,416	4	1,698	848	.....
¼-lb. 100s	10,249	10,490	37,732	49,719	17,658	9,406	214	7,510	.....	.....	.....
Total Yellowfin	**1,582,477**	**1,284,179**	**1,927,292**	**2,005,819**	**1,325,645**	**759,908**	**696,209**	**827,483**	**1,497,991**	**2,213,692**	**2,642,354**
TUNA—FLAKES:											
1-lb.	11,279	9,006	8,110	19,213	13,525	5,561	4,803	11,876	8,821	12,946	19,563
½-lb.	38,765	55,342	64,004	206,770	155,349	145,415	497,712	729,915	539,633	813,847	722,475
¼-lb.	394	128	126	1,337	1,675	.....	.....	16,009	.....	.....	.....
Total Flakes	**50,438**	**64,476**	**72,240**	**227,320**	**170,549**	**150,976**	**502,515**	**757,800**	**548,454**	**826,793**	**742,038**
TUNA—TONO STYLE:											
½-lb.	11,404	8,193	10,119	22,143	5,322	383	10,401	15,365	16,198	.....	33,762
¼-lb. 100s	126,333	59,211	67,221	162,089	28,516	23,096	16,198	.....	.....	.....	.....
Total Tono	**137,737**	**67,404**	**77,340**	**184,232**	**33,838**	**23,479**	**26,599**	**15,365**	**16,198**	.....	**33,762**
YELLOWTAIL:											
1-lb.	16,513	17,469	6,582	17,428	25,311	2,287	4,530	166	.....	704	5,173
½-lb.	30,938	52,762	18,032	48,502	96,842	35,105	68,738	19,682	17,336	43,341	128,561
¼-lb. 100s	.....	.....	.....	2.552	7,154	.....	.....	.....	.....	.....	.....
Total Yellowtail	**47,480**	**71,234**	**24.614**	**68,432**	**129,307**	**37,392**	**73,268**	**19,848**	**17,336**	**44,045**	**133,734**
FISH PET FOOD:	**179,230**	**287,403**	**384,427**	**832,091**	**1,027,903**	**197,403**	.....	.....	.....	.....	**1,087,040**
GRAND TOTAL	**6,986,616**	**6,341,557**	**8,021,345**	**9,374,133**	**9,820,485**	**6,941,643**	**6,699,736**	**7,738,949**	**8,346,210**	**9,085,235**	**10,230,401**
Total Tuna, including Bonito, Yellowtail	**3,018,315**	**2,598,732**	**3,305,308**	**2,530,151**	**3,868,394**	**2,242,220**	**2,317,989**	**2,801,970**	**3,456,442**	**4,555,397**	**5,357,498**

NOTE:—All cases are 48s unless otherwise specified. In a few instances, insignificant quantities of odd sizes have been included with nearest standard containers.
* Combined with Clam Juice. (a) 5¾ oz. size mackerel cans. (b) Includes 296 cases ½-lb. Shad.
(c) No. 10 and 1-lb. sizes combined; ½-lb. and ¼-lb. sizes combined. (d) Some 5-oz. sizes are combined with the ½-lb. size.



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Biggest tuna pack in history, canned at the highest prices even known, might be expected to create a problem in the matter of marketing, it was widely acknowledged as 1948 closed.

Greatest wonder of all, however, was that a pack exceeding 6,000,000 cases (when the Oregon-Washington Albacore pack is included) could be so largely absorbed by the market with no graver evidence of weakness.

Softening was confined primarily to White Meat tuna; and the carryover into 1949 was not greater, percentagewise, than what formerly was considered normal mid-winter warehouse stocks.

Southern California's tuna industry came to the end of 1948 with problems new to the many comparative newcomers in tuna packing. To veterans of the industry there was nothing new in such conditions as a possible 700,000 case carryover into the new year, and evidence of downward price trends.

Since the early days of World War II the industry had expanded in spectacular fashion, with the annual pack swelling year by year until in 1948 it reached around 6,000,000 cases. Demand for the canned product had more than kept pace with increased production, in spite of higher and higher price tags on retail grocers' shelves.

Naturally there had to be an end to the upward spiral and it appeared as 1948 closed as if this had been reached. There were many signs that packers, uneasy as warehouses bulged with unsold cases, were seeking to readjust their sights to meet declining conditions.

It was interesting to note that price structures for canned tuna did not change materially in 1948. There were some indications of price cutting, but generally speaking, quotations remained firm. By mid-December, f.o.b. cannery quotations were about as follows:

White meat, fancy, $22.00, basis, ½-lb. round cans; standard, $20.00; flakes, $17.50.

Light meat, fancy, $17.25; standard, $16.25 to $16.50; flakes, $14.75 to $15.25; grated, $14.25.

Bonito, standard, $13.00; flakes, $12; yellow tail approximately the same to slightly lower.

While the case price had been steady right along, the real obstacle to unhampered operations was that buyers were just naturally not as interested in more canned tuna. This condition was exaggerated as the year drew to a close. Then distributors everywhere sought to keep stocks of this high-priced fish low for December 31 inventory-taking.

Light Meat fancy remained strongest of any stocks. In fact most of the large packers were short on this, and unable to fill all orders. It was generally agreed the heavy pack of Albacore, 750,000 cases for Southern California, had disturbed the national markets from a price standpoint.

Buyers nationally were reluctant to purchase Albacore except in small amounts. Consequently, it began to pile up in packers' warehouses. Representing a tremendous investment, the slow movement drained off canners' cash reserves.

This fact, and a weakening of the canned food market generally, plus a feeling in the fish trade that meat prices would decline by spring, threw the tuna industry into uncertainty for the first time in many years.

Actually, provided conditions were readjusted to meet what seemed an inevitable decline in price structures, the Southern California tuna industry had little cause for pessimism. The great 6,000,000-case pack didn't seem to be the saturation figure. Reaction of the national housewife to canned tuna was still favorable and demand was as strong as ever, or would be if the price was kept within the reach of smaller pocketbooks.

During the year almost all packers changed from the conventional method of grating tuna to flaked packs with, however, certain changes whereby canners sought to put, either by hand or automatic methods, larger pieces into the cans, rather than the ground-up bits of the former grated cans.

This improved flaked pack has found favor with the housewife as well as with restaurants, etc., because it can be used for all dishes which normally would call for a

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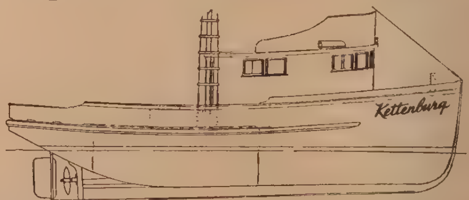
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CALIFORNIA FISH CANNING PLANTS

In the table below, the company name is followed by that of the president, principal owner, or managing director. Location given is that of the plant, not necessarily that of the company headquarters. This is followed by one or more letters indicative of the plant products. These products are represented as follows: (a) canned sardines; (b) canned tuna; (c) canned mackerel; (d) other canned fish products.

SAN FRANCISCO DISTRICT

American Sardine Co., Matt Martin	Benicia	(a)
Bell Smoked Fish Co., Joe Tarantino	San Francisco	(b, d)
Bering Sea Codfish Co., Joe Balestrieri	San Francisco	(b, d)
F. E. Booth Co., Inc., A. H. Mendonca	San Francisco	(a, b, d)
East Bay Fisheries, F. J. Mullins	Pt. San Pablo	(a)
Hallmark Fisheries, Earl Hallmark	Eureka	(b, d)
Hickmott Canning Co., J. H. Dempsey	Antioch	(d)
J. D. Packing Co., James A. Davi	San Francisco	(a, d)
Keystone Fisheries, Inc., Jack Blodgett	San Francisco	(a, b)
Tom Lazio Fish Co., Tom Lazio	Eureka	(b, d)
Northern Packing Corp., George Christo	San Francisco	(a)
Pacific Sea Products, Ben Nichelsen	San Francisco	(b)
Paul's Cannery, Chester J. Paul	Crescent City	(d)
Princeton Packers, A. M. Patrick	Halfmoon Bay	(a, b, d)
Red Rock Fisheries, J. H. Dempsey	Pt. San Pablo	(a)
Romeo Packing Co., Joe Romeo	Halfmoon Bay	(a, b)

MONTEREY BAY DISTRICT

Ace Packing Co., Frank Verga	Moss Landing	(a, d)
Aeneas Sardine Products Co., Inc., Frank E. Lucido	Monterey	(a, d)
Atlantic Coast Fisheries Co., J. R. Perry	Monterey	(a, d)
Calif. Frozen Fish Co., Sal Ventimiglia	Monterey	(a, d)
Calif. Packing Corp., Don T. Saxby	Monterey	(a, d)
Carmel Canning Co., J. R. Perry	Monterey	(a, d)
Custom House Packing Co., Frank J. Leard	Monterey	(a, d)
Edgewater Packing Co., Charles J. Broad	Monterey	(a, d)
Enterprise Packers, Sebastian Sollecito	Monterey	(a, d)
Hovden Food Products Corp., K. Hovden	Monterey	(a, b, d)
Hovden Food Products Corp., K. Hovden	Moss Landing	(a, b, d)
Monterey Canning Co., Magnus Flause	Monterey	(a, d)
Monterey Fish Products Co., Frank Lucido	Monterey	(a, d)
Peninsula Packing Co., G. M. Dollar	Monterey	(a, d)
Port Costa Packing Co., Frank Richey	Moss Landing	(a, d)
San Carlos Canning Co., Angelo Lucido	Monterey	(a, d)
San Xavier Fish Packing Co., Frank E. Raiter	Monterey	(a, b, d)
Sea Beach Packing Co., Sal Palma	Monterey	(a, d)
Sun Harbor Packing Co., Jack Crivello	Monterey	(a, d)

SAN PEDRO DISTRICT

American Sea Food Products Co., Inc., D. B. Oliver	Wilmington	(a, b, c, d)
Cal-Cap Fisheries, Tony Ostoich	Wilmington	(a, b, c, d)
California Sea Food Co., Meyer Simon	Long Beach	(a, b, c)
Coast Fishing Co., J. R. Biven	Wilmington	(a, b, c, d)
Franco-Italian Packing Corp., Jos. Mardesich	Terminal Is.	(a, b, c, d)
French Sardine Co., J. J. Bogdanovich	Terminal Is.	(a, b, c, d)
Golden State Sea Food Co., R. O. Gruwell	Long Beach	(a, c, d)
Harbor Canning Co., George DeLaTore	Wilmington	(a, c)
Laguna Packing Corp., W. G. Holland	Wilmington	(a, b, c)
Lido Seafood Co., Nick Kovacevich	Long Beach	(a)
Newport Canning Co., W. Gregory Gorby	Newport Bch.	(a, b, c)
Pan-Pacific Fisheries, Inc., R. L. Puccinelli	Term. Is.	(a, b, c, d)
Seaside Fisheries Co., Harry H. Steele	Long Beach	(a, c)
South Pacific Canning Co., M. D. Marsh	Long Beach	(a, b, c, d)
Southern California Fish Corp., G. K. Breitenstein	Terminal Is.	(a, b, c, d)
South Coast Fisheries, Inc., P. A. Kuglis	Terminal Is.	(a, b, c)
Terminal Island Sea Foods, Ltd., H. C. Davis	Terminal Is.	(a, b, c, d)
Van Camp Sea Food Co., G. C. Van Camp NK, IN & CP Plants	Terminal Is.	(a, b, c, d)
West Coast Packing Corp., Albert Vignolo	Long Bch.	(a, b, c, d)
West Coast Packing Corp., Roy Roush	Newport Beach	(a, c)
Western Canners, Inc., W. M. Longmoor	Newport Beach	(a, c)
Wilmington Fisheries, Emil Guerrero	Wilmington	(a, b, c, d)

SAN DIEGO DISTRICT

High Seas Tuna Packing Co., E. M. Nielsen	Point Loma	(a, b, c)
People's Packing Corp., Louis C. Strada	San Diego	(b)
San Diego Packing Co., E. M. Darrimon	San Diego	(a, b)
Sun Harbor Packing Co., Jack Crivello	San Diego	(b)
Van Camp Sea Food Co., Bates Harper	San Diego	(b)
Westgate Sea Products Co., W. W. Ambrose	San Diego	(a, b, c)

LOWER CALIFORNIA (MEXICO)

Cia Productos Marinos, Romeo Jimenez	Cape San Lucas	(b, d)
Pesquera del Pacifico S. de R. L., J. A. Morales, Jr., Francisco Alvarez	Sauzal	(a, b, c, d)
Pesquera del Pacifico S. de R. L., Luis Ojeda Mielson	Cedros Islands	(c, d)
La Industrial de Ensenada, Arturo Paredes	Ensenada	(a, b, c, d)
Industrial Maritimay, Mercantil, S. A.	Turtle Bay	(d)

solid-pack product. However, this is not to imply that the new combination "chunks and flakes" pack is supplanting the use of solid packs; rather that it is a far superior product to the former grated pack.

To meet what was believed in the industry to be only a temporary set-back, calling for a readjustment of sights, packers were going back in a more general way to spot shipments of cars to distribution centers across the country, to give brokers and buyers benefit of bulk-shipment freight rates, as well as to make the product more easily available to economy-minded buyers.

For the first time in the history of the tuna industry, there was a movement afoot in Southern California as the year closed which, taxing both fishermen and canners, would build up an annual fund perhaps as high as half a million dollars to advertise tuna in the national markets as an industry product.

CANNED MACKEREL MARKETS

End of the year case-price quotations on both Pacific and Jack mackerel showed somewhat of a weakening from earlier quotations. This was not so much due to heavy production—it was doubtful the final figures would show 1,000,000 cases—as to general decline in canned fish prices, hand-to-mouth buying, the uncertainty of the sardine market, and inability of packers to ship export during the heavy-tonnage period, due to the prolonged maritime strike.

Pacific mackerel was quoted, f.o.b. cannery, at $8.00, talls, basis 48 1-lb. cans, a decline from $9.00 in September. Jack mackerel was offered at $7.50—some considerably lower—a drop from the $8.50 quotation that had held steady from January to end of September.

Spot stocks to distribution centers, mostly the southern markets, were necessary to supply buyers determined to purchase only in small amounts. As the shipping strike ended, packers in Southern California were beginning to receive orders from the Philippines and China.

An abnormal run of Jack mackerel during the spring, when sardines were scarce, filled packers' warehouses. Compelled then to label the product Horse mackerel, the industry made a determined effort to get permission of the Pure Food & Drug administration to change to Jack. Finally this was secured in July, and immediately sales resistance was overcome.

The second half of the year saw more Pacific caught than Jack, as purse seiner catches were light, and "scoopers" heavy. Thus the year ended with the pack about equally divided between Pacific and Jack.

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1918 - 1949

Packers of

California Sardines—Anchovies (Sardine Style)—Mackerel—Squid

Our Brands:

"BLUE BAY"
"DOLORES"
"EL CARMEL"
"SONORA"
"SAN CARLOS"
"SAN LUIS"

702 Ocean View Avenue

MONTEREY
CANNING COMPANY

Main Office and Plant

1-lb. Oval, 1-lb. Tall, 9-oz. Oblong, 8-oz. Oblong, 5-oz. Round

Packed in Various Sauces

We produce Our Tomato Sauce in our own plant.

MONTEREY, CALIFORNIA

Markets for California canned sardines weakened in the fall of 1948 even as it became evident that once again the production would be decidedly below normal.

The condition did not result entirely from the fact that the pack was canned at highest cost in history. It was influenced also by the Pacific maritime strike, which barred the way to export business during the peak of the sardine season.

Packing of anchovies in square halves, so active late in 1947, checked sharply in 1948 when buyers failed to place repeat business at prices which offered any chance of profit.

As the year ended California's multi-million dollar canned sardine market had scored an erratic path.

In January, 1948, the Philippine market, one of the best in the export field, was active and the demand was strong, with high prices. Ovals, 1-lb. in tomato sauce, were selling for $12.50 per case, with 1-lb. talls, natural, at $9.00. The previous season pack was cleaned up, and many canners then went to packing sardines in 8-oz. oblong cans, in tomato sauce. This item continued in good demand until late March and early June, with the trade mostly domestic, and the price around $8 per case.

With the approach of the new season demand dropped off as buyers expected lower prices. By this time also the export market had slipped off. Very few sardines were offered.

When the season finally opened in Monterey the new prices were $11 on ovals in tomato sauce, and $8.50 on talls. Fair business was enjoyed by packers at these prices. There was a very active demand from the southern states for 1-lb. talls, natural.

Then came the maritime strike, shutting off all export, and at the same time the domestic market went into a slump. The urgent September demand for ovals at $11 had been taken care of and ovals started to drag. All during this time there was no future buying—all buying was from hand-to-mouth.

On Oct. 1 the southern California sardine season opened with a tremendous catch of fish on opening day, but packers had little or no business booked. All this time they had been paying $67.50 per ton for fish.

Faced with a high raw material cost for fish and sluggish demand, some southern California sardine canners were said to have become jumpy, and the opening price was $10 per case for ovals in tomato sauce, and $8 per case for talls for the southern pack.

Finally the price of sardines was settled at $50 per ton, fishing was resumed, and ovals were selling for around $8, and talls for $6.50 at the first of December, 1948.

As the PACIFIC FISHERMAN YEARBOOK went to press, the maritime strike which had strangled the export business was settled. Observers said that it was difficult to predict what would happen in the immediate future.

Tuna Prices Per Ton Paid Fishermen

Year	Albacore	Yellowfin	Bluefin	Skipjack
1917	$30	$50	$45	$40
1918	125	90	80	40
1919	200	90	80	40
1920	300	90	80	40
1921	145	80	80	60
1922	250	100	80	60
1923	300	80	75	60
1924	360	80	80	60
1925	200	80	80	60
1926	175	110	110	75-80
1927	Nominal	110	90	75
1928	$200 up	120	90	75
1929	300	120	110	70-80
1930	200	120	110	90
1931	200	120-100	90	90-80
1932	200	80	75	70
1933	200	100	90	80
1934	200	100	90	80
1935	125-160	100	90	80
1936	Nominal	105-110	95-90	85-90
1937	215	120	110	100
1938	215-130	120	110	100
1939	125	110	100	90
1940	140	110	110	100
1941	140	110-130	110-120	100-110
1942	300-400	190	180	170
1943	325	200	190	180
1944	325-390	200	190	180
1945	390	200	190	180
1946	390-440	200-280	190-270	180-260
1947	410-600	310-340	300	290-320
1948	550-740-425	340	330	320

Note—Prices quoted are per ton of round fish in good condition landed at cannery dock. All fish rejected by inspectors, either as landed or after precooking, are deducted from the gross weight.

Figures given undertake to state the prevailing market level. Where a range in prices is shown it represents a definite change in market level in the course of the season, the movement being from the first to the second figures stated. Quotations for 1943 through 1945 are OPA ceiling prices for cannery fish, and represent the total amounts which may be paid the fishermen in cash or allowances, save for the cost of war-risk insurance. The lower figures in 1946 are ceiling prices and the higher represent levels attained after removal of OPA controls.

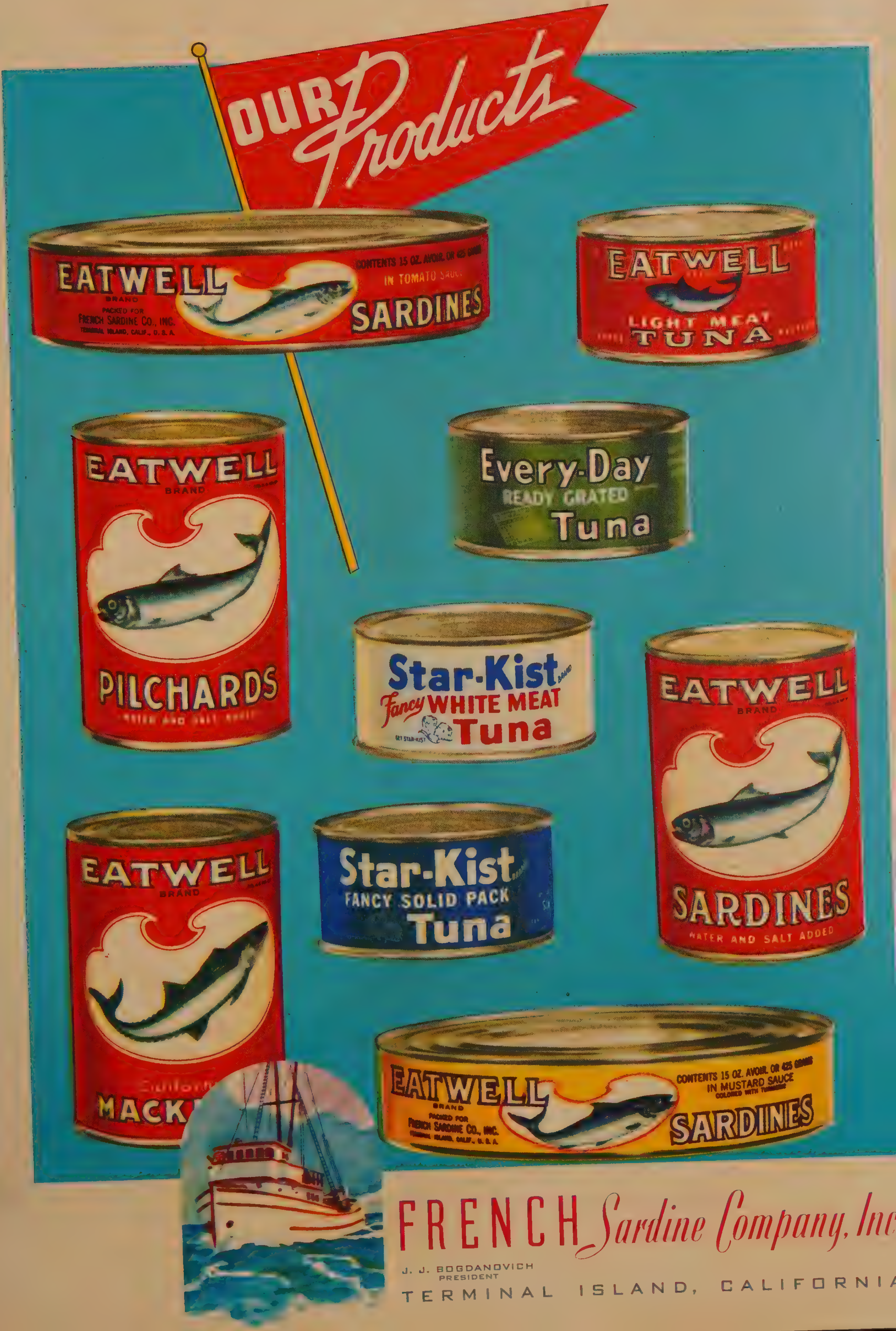
PHELPS HOLLYWOOD
San Francisco, Calif.

Director, Carmel Canning Co.

President, California Sardine Products Institute

L. K. SMALL
San Diego, Calif.

President, Marine Products Co.


OUR Products
EATWELL BRAND
PACKED FOR FRENCH SARDINE CO., INC. TERMINAL ISLAND, CALIF., U.S.A.
CONTENTS 15 OZ. AVOIR. OR 425 GRAMS
IN TOMATO SAUCE
SARDINES
EATWELL
LIGHT MEAT TUNA
EATWELL BRAND
PILCHARDS
WATER AND SALT ADDED
Every-Day
READY GRATED
Tuna
Star-Kist BRAND
Fancy WHITE MEAT Tuna
EATWELL BRAND
SARDINES
WATER AND SALT ADDED
EATWELL BRAND
MACK
Star-Kist BRAND
FANCY SOLID PACK
Tuna
EATWELL BRAND
PACKED FOR FRENCH SARDINE CO., INC. TERMINAL ISLAND, CALIF., U.S.A.
CONTENTS 15 OZ. AVOIR. OR 425 GRAMS
IN MUSTARD SAUCE
COLORED WITH TURMERIC
SARDINES

FRENCH *Sardine Company, Inc*

J. J. BOGDANOVICH
PRESIDENT

TERMINAL ISLAND, CALIFORNIA

California canned 1 million cases more tuna in 1948 than in any other year in the history of the tuna industry.

The pack of 5,350,000 cases which set an all-time record in 1947 was snowed-under in 1948 with production of 6,340,000 cases in 1948.

The Pacific Northwest in 1948 packed 560,000 cases of tuna, bringing the Pacific Coast pack to 6,900,000 cases.

With aggregate production running practically 1,000,000 cases above the best previous mark, California shattered all tuna canning records in 1948.

Where the pack of 5,357,498 cases in 1947 seemed fabulous, 1948 production came-on to dwarf that of the previous year, with 6,340,172 cases produced.

In addition to the California tuna canning, the Pacific Northwest packed 417,354 cases of Albacore and 143,978 cases of Yellowfin, to bring the production of the Pacific states to 6,901,504 cases.

Beside the figures reported above, British Columbia canned 30,000 cases and Hawaii packed an unreported amount.

Industry Takes a Breather After Establishing Record

Having hung-up a new tuna-canning record in 1948, the California industry was taking a breather during the early part of 1949, with most of the fleet idle while packers sought to bring the cost prices a measure of the flexibility which characterizes market prices.

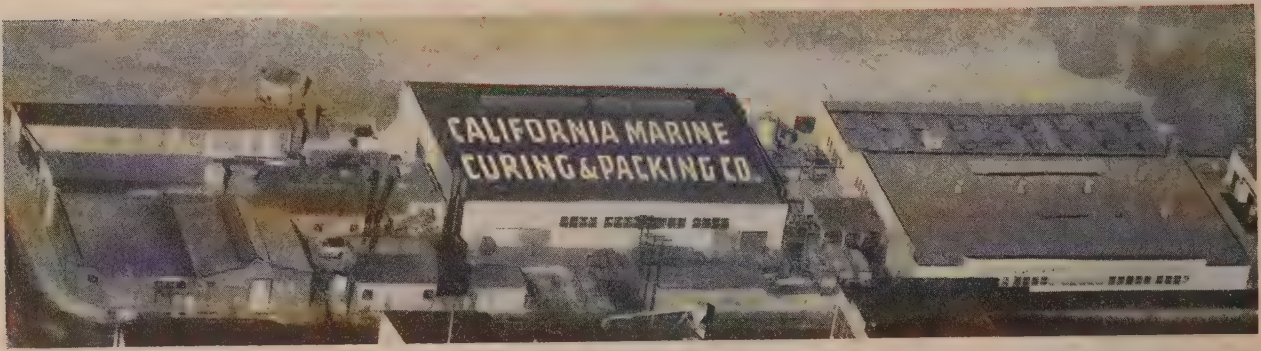
Among those best-informed there were none who believed the 1949 pack would approach the figures set in 1948.

1948 — SAN DIEGO TUNA PACK BY MONTHS — 1948

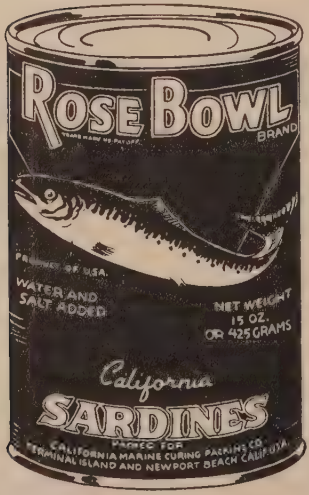
Species	January	February	March	April	May	June	July	August	September	October	November	December	Total
Albacore:													
1-Lb. Flats								1,898	605				**2,503**
½-Lb. Flats							60,909	268,967	114,453	14,355	647	19	**459,350**
Total							**60,909**	**270,865**	**115,058**	**14,355**	**647**	**19**	**461,853**
Bonito:													
1-Lb. Flats											48		**48**
½-Lb. Flats	279	1,258	93	76	1,903	564		756	5	600	1,320	1.156	**8,010**
Total	**279**	**1,258**	**93**	**76**	**1,903**	**564**		**756**	**5**	**600**	**1,368**	**1,156**	**8,058**
Bluefin:													
½-Lb. Flats							**1.608**	**11**	**67**	**261**	**34**		**1,981**
Skipjack:													
1-Lb. Flats			154			59	110	260	53	167			**803**
½-Lb. Flats	16,608	30,735	5,399	7,277	15,809	43,241	100.106	159,705	161,813	87,909	42,052	54,450	**725,104**
Total	**16,608**	**30,735**	**5,553**	**7,277**	**15,809**	**43,300**	**100,216**	**159,965**	**161,866**	**88,076**	**42,052**	**54,450**	**725,907**
Yellowfin:													
1-Lb. Flats	371	1,180	1.753	1,394	1,364	1,499	903	1,245	294	1,598	899	6,976	**19,476**
½-Lb. Flats	82,967	128,296	100,305	184,924	206,977	255,113	179,289	142,235	215,235	279,277	141,722	418,851	**2,335,191**
Total	**83,338**	**129,476**	**102.058**	**186.318**	**208.341**	**256,612**	**180,192**	**143,480**	**215,529**	**280,875**	**142,621**	**425,827**	**2,354,667**
Yellowtail:													
1-Lb. Flats		180					207			158			**545**
½-Lb. Flats	2,061	2.758	135	2,545	726	4,289	3,671	2,935	983	1,800	4,724	4,190	**30,817**
Total	**2,061**	**2.938**	**135**	**2.545**	**726**	**4,289**	**3,878**	**2,935**	**983**	**1,958**	**4,724**	**4,190**	**31,362**
Tuna, flakes:													
1-Lb. Flats		643		857	103	764	384	487	261	353	1,286	410	**5,548**
½-Lb. Flats	6,751	3,321	11,241	24,542	17,878	34,029	36,610	62,377	49,926	24,944	30,834	58,833	**361,286**
Total	**6,751**	**3,964**	**11.241**	**25.399**	**17,981**	**34,793**	**36.994**	**62.864**	**50,187**	**25,297**	**32,120**	**59,243**	**366,834**
Tonno:													
½-Lb. Flats		**1,138**	**1.712**	**892**	**4.718**			**2,311**	**1,386**				**12,157**
Grand Total	**109,037**	**169,509**	**120,792**	**222.507**	**249.478**	**339.558**	**383.797**	**643.187**	**545.081**	**411.422**	**223.566**	**544.885**	**3.962.819**

California MARINE CURING & PACKING CO.

TERMINAL ISLAND, CALIFORNIA


CALIFORNIA MARINE
CURING & PACKING CO.

Still One of the Pacific Coast's Fastest Growing Fish Packing Organizations. Packing Tuna, Sardines and Mackerel by the Most Advavnced Methods and Machinery.


ROSE BOWL
BRAND
PRODUCT OF U.S.A.
WATER AND SALT ADDED
NET WEIGHT 15 OZ. OR 425 GRAMS
California
SARDINES
PACKED FOR CALIFORNIA MARINE CURING PACKING CO. TERMINAL ISLAND AND NEWPORT BEACH CALIF. U.S.A.

TUNA

"Priority" "Sea Magic"

White Meat and Light Meat Fancy Packed by our own Automatic machines

SARDINES

"Rose Bowl"

MACKEREL

"Rose Bowl"

PRIORITY
LIGHT MEAT TUNA

Sea Magic
BRAND
SOLID PACK
FANCY TUNA

EXCLUSIVE SALES AGENTS

E. M. DARRIMON & CO.

727 W. 7th St., Los Angeles 14, Calif.

Phone Madison 6-9291

SAN DIEGO PACKING Company

SAN DIEGO · CALIFORNIA

San Diego Is the Tuna Capital of the World, and San Diego Packing Co. Has One of the World's Finest Canneries There.

The Plant Incorporates Every Modern Development for Producing the Highest Quality Pack Possible.

SAN DIEGO PACKING CO.

New Airshot of San Diego Packing Company's great Tuna Cannery at San Diego

EXCLUSIVE SALES AGENTS

E. M. DARRIMON & CO.

727 W. 7th St., Los Angeles 14, Calif.

Phone Madison 6-9291

Reprinted by Request

BUILDING A MAJOR FOOD INDUSTRY...

The Story of Tuna is the Story of Van Camp

THE story of tuna is more than a colorful "saga of the sea." It is also the realization of the high hopes of one company and one of the most spectacular success stories ever recorded in the food field.

It is the story of how, in a span of 35 years, one company built a new food industry "from scratch" and, in building its own success, made success possible for many others. In the entire history of food merchandising, there is no more notable instance of one concern holding an umbrella over an industry than the case of tuna.

The story starts back in 1912, when a young man by the name of Gilbert Van Camp II came to California for a vacation. While there, he discovered the thrill of fishing for the game-y tuna. At San Pedro, he also discovered a small packing company operating in what was little more than a shed.

A three-generation background of packing gave him a vision of what could come from a more scientific packing of delicious, delicate tuna and making it popular with the American public. So he wired east to his father, Frank Van Camp, to give up the packing of pork and beans and enter a challenging and fascinating new field.

For ten years, they put their combined efforts into "readying" the market. In 1923, they merged six Southern California tuna packing concerns and started, in a big way, to put across Chicken-of-the-Sea Brand Tuna and White Star Brand Tuna by a coordinated campaign of aggressive selling and advertising. Since then, the Van Camp Sea Food Company, Inc. has spent more than $15,000,000 in advertising, with an annual budget that now runs around $750,000 a year. Van Camp advertising has been practically the only education that the American people have gotten on tuna during this quarter century.

In 1912, the tuna pack for the industry was 75,000 cases. The 1948 pack was over 6,000,000 cases, an 8,000% increase in 36 years, brought about almost entirely by efforts of one company.

Yes, the story of tuna is the story of Van Camp!

VAN CAMP SEA FOOD CO., INC.
Main Office: Terminal Island, California

FISHERIES LOCATED AT: Astoria, Oregon • Monterey, California • San Simeon, California • Avila, California • Avalon, California
Newport Beach, California • San Diego, California • Guaymas, Sonora, Mexico • Puntarenas, Costa Rica • Lima, Peru

Chicken of the Sea
BRAND
CONTENTS 6½ OZS. AVOIR.
GRATED STYLE
TUNA
GRATED STYLE
THE BRANDS THAT MADE TUNA FAMOUS
WHITE STAR
BRAND
PACKED IN SOYBEAN OIL SALT ADDED
Chicken of the Sea
CONTENTS 6½ OZ AVOIR
GRATED STYLE TUNA

CALIFORNIA PACK OF CANNED TUNA AND RELATED FISHES
1912 to 1948

Year	San Pedro District							San Diego District							Grand Total, (Cases)	Year
	Yellowfin Tuna (All Sizes)	Bluefin Tuna (All Sizes)	Skipjack Tuna (All Sizes)	Albacore (All Sizes)	Tonno, Italian Style (All Sizes)	Tuna Flakes, Yellowtail Bonito, etc.	Total (Cases)	Yellowfin Tuna (All Sizes)	Bluefin Tuna (All Sizes)	Skipjack Tuna (All Sizes)	Albacore (All Sizes)	Tonno, Italian Style (All Sizes)	Tuna Flakes, Yellowtail, Bonito, etc.	Total (Cases)		
1912	...	...	...	...	...	...	...	...	...	...	...	...	...	...	75,900*	1912
1913	...	...	...	...	...	...	...	...	...	...	...	...	...	...	77,500*	1913
1914	...	...	...	...	...	...	...	...	...	...	...	...	...	...	217,000*	1914
1915	...	...	...	...	...	...	...	...	...	...	...	...	...	...	237,365*	1915
1916	315,880	**	**	82,593	...	6,457	404,930	71,062	**	**	13,593	...	245	84,900	489,830	1916
1917	382,273	...	...	118,769	...	11,928	512,970	140,563	...	...	17,261	...	12,746	170,570	683,540	1917
1918	228,241	...	...	82,801	...	87,110	398,152	50,129	...	...	...	...	73,072	123,201	521,353	1918
1919	487,812	...	...	144,383	...	65,008	697,203	62,318	...	...	47,869	...	24,572	134,759	831,962	1919
1920	668,012	...	...	§	...	1,534	669,546	167,633	...	...	§	...	1,623	169,256	838,802	1920
1921	72,410	...	...	255,194	...	...	327,604	27,869	...	...	82,157	...	48	110,074	437,678	1921
1922	334,733	...	...	166,496	...	3,651	504,880	129,349	...	...	27,269	...	23	156,641	661,521	1922
1923	312,187	...	...	209,591	...	17,803	539,581	224,315	...	...	88,014	...	4,869	317,198	856,779	1923
1924	134,497	...	...	278,855	60,051	53,350	526,753	27,207	...	...	106,958	8,987	2,395	145,547	672,300	1924
1925	323,422	...	...	358,940	59,440	56,709	798,511	187,909	...	...	95,007	9,646	2,290	294,852	1,093,363	1925
1926	380,174	...	...	51,223	90,689	57,466	579,552	188,649	...	...	14,578	40,864	15,416	259,507	839,059	1926
1927	389,172	...	...	105,783	196,875	47,199	739,029	436,700	...	...	20,916	10,221	20,147	487,984	1,227,013	1927
1928	481,445	...	...	99,093	106,038	27,844	714,420	473,704	...	...	658	11,783	9,798	495,943	1,210,363	1928
1929	402,526	...	...	130,212	88,454	51,987	673,179	710,926	...	...	2,426	31,351	23,162	767,865	1,441,044	1929
1930	658,728	...	...	143,748	57,110	73,049	932,635	950,461	...	...	1,783	17,875	17,635	987,754	1,920,389	1930
1931	394,668	...	...	144,796	35,514	52,960	627,938	506,995	...	...	177	706	9,597	517,475	1,145,413	1931
1932	275,263	8,510	101,626	52,215	42,247	45,865	525,726	403,050	177	203,381	...	...	15,655	622,263	1,161,151	1932
1933	258,982	7,580	74,728	49,391	41,200	30,188	455,969	678,810	1	198,313	...	...	30,409	907,533	1,363,502	1933
1934	317,846	325,350	71,350	82,182	55,163	61,363	858,271	780,066	6,683	195,798	...	...	31,509	1,014,236	1,872,507	1934
1935	306,202	413,630	88,746	107,501	88,660	142,112	1,139,851	948,276	24,871	249,747	4,648	545	108,778	1,336,876	2,476,727	1935
1936	343,234	311,987	184,930	53,849	57,797	95,310	1,047,107	1,074,811	22,390	295,330	35	740	146,769	1,534,075	2,586,182	1936
1937	416,611	188,432	276,165	83,123	136,612	123,405	1,224,348	1,165,866	27,103	487.751	8,036	1,125	104,086	1,793,967	3,018,315	1937
1938	273,365	273,358	151,081	265,034	67,404	166,362	1,196,604	1,010,814	49,840	221,917	24,355	...	95,202	1,402,128	2,598,732	1938
1939	578,727	191,456	212,042	281,666	70,022	192,355	1,526,268	1,348,565	27,020	257,528	46,372	7,318	63,599	1,750.403	3.305,308	1939
1940	536,391	267,343	306,447	122,484	124,094	191,485	1,548,244	1,469,428	45,867	529,776	19,304	60,138	191,684	2.316,197	3,868,394	1940
1941	308,886	136,333	109.563	73.024	33,530	202,380	863,716	1,016,759	32.369	323,466	10.145	308	274.365	1,657,412	2,530,199	1941
1942	214,391	250,685	128,980	128,670	23,479	74,422	820,627	545,517	28,413	590,594	104,578	...	146,234	1,415,336	2,235,963	1942
1943	303,881	162,844	88 203	187,052	17,239	217,143	976,362	392,114	12,021	294,964	227 347	...	394,265	1,320,711	2,308 416	1943
1944	341,687	357.531	105,863	125.632	15,365	255,456	1 201.534	485,796	16,473	257,994	307,806	...	537,889	1,605 958	2,807.492	1944
1945	460,982	275,116	89,279	148,286	16,198	486,920	1.476,781	1,037,009	22,742	458,895	329,251	...	128,686	1,976,583	3,456,442	1915
1946	663.814	304,248	202,729	141,629	...	646,615	1,959,035	1,549,557	28,753	445,560	233,622	...	332,529	2,590.021	4,555,397	1946
1947	765,426	342,309	209,281	104,726	7,403	726,184	2,155,329	1,875,087	6,557	695,170	145,300	26,359	392,438	3,140,911	5,357,498	1947
1948	936,271	94,020	190,289	285,143	23,605	797,926	2,327,254	2,354,667	1,981	725,907	461,853	12,157	406,254	3,962,819	6.340,172	1948

*No detailed figures available prior to 1916. Totals of these years estimated on basis of 48 lbs. net to the case.

**From 1916 to 1931, inclusive, Bluefin and Striped tuna were included with Yellowfin.

§Included under other heads.

†Figures for 1948 are preliminary totals from official sources. The segregation of the pack into species is approximate only, being based upon the landings of raw fish of the several varieties. Figures for previous years have been corrected according to the official statistics of the California Division of Fish and Game, and cover full calendar years. Figures for the table as a whole cover actual cases of various can sizes, with the great majority cases of 48 half-pound flats. ▲Includes tuna flakes.

NOTE:—Grand totals include minor quantities canned at Monterey, in addition to district totals given. These Monterey-canned quantities are: 1932—13,162 cases; 1939—28,637 cases; 1940—3,953 cases; 1941—9,071 cases; 1942—6,212 cases; 1943—11,343 cases; 1944—596 cases; 1945—3,078 cases; 1946—3,219 cases; 1947—22,603 cases; 1948—49,930 cases. The grand total for 1946 also includes 2,801 cases of Albacore and 321 cases of Yellow fin canned in the San Francisco district. The grand total for 1947 includes 13,643 cases of Albacore, 261 cases of Bonito, 22,027 cases of Bluefin, 1,841 cases of Yellow fin and 883 cases of tuna flakes canned in the San Francisco district.

Albacore Pack Features 1948

California's production of Albacore—746,996 cases— was a noteworthy feature of 1948, for it was the largest in the history of the state's tuna fishery, comparing with 250,026 cases the year previous.

The American supply of white meat tuna available for market in 1948 was brought to 1,164,350 cases by addition of a pack of 417,354 cases in the Pacific Northwest.

San Diego Far in the Lead In Tuna Canning for 1948

With 3,962,819 cases, against 2,327,254 cases for its rival San Pedro district, California's tuna canning center at San Diego was far in the lead in 1948 .

As a matter of fact, its 1948 pack was greater than the combined total for California operations in any full year with the exception of 1946 and 1947.

Year Opens With Basic Yellowfin Price $340 Per Ton

Southern California tuna fishing operations began in 1948 with raw prices quoted: Yellowfin, $340; Bluefin, $330; Skipjack, $320; Albacore, $410; bonito, $235 and yellowtail, $225. A controversy arose between the Fishermen's Cooperative Association, San Pedro (seiners) and the CIO union, with owners asking a larger percentage of earnings, due to higher cost of operation. This held the seine fleet inactive until early February.

First 1948 arrival of a tuna clipper at San Diego was the *United Victory*, unloading January 1 at High Seas Tuna Packing Co. Initial clipper to depart in 1948 was the *Sun Glow* for Sun Harbor Packing Company, also January 1. First in at Los Angeles-Long Beach harbors were the *Joan of Arc* and *South Pacific* for French Sardine Company.

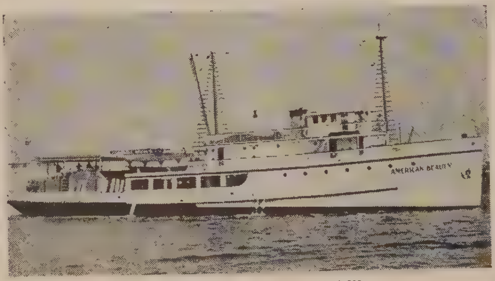
By January 15 a total of 31 clippers had left port at San Diego, in-

EDITORIAL NOTE — Tabular statistics in the Tuna Section of the Yearbook are prepared from preliminary official data compiled by the Bureau of Marine Fisheries, California Division of Fish and Game. Running review of the season in the editorial text of this section is based on statistics compiled by the California Fish Canners Association. Use of these two primary sources accounts for slight variations between some of the figures given in tables and text.

MANNS

ENGINEERED REFRIGERATION

★



"AMERICAN BEAUTY"

Painstaking research and high-seas experiments conducted in 1934 on the "American Beauty" by Ralph E. Manns resulted in all-brine systems now standard practice in the $50,000,000 tuna clipper and purse seine fleets.

"CAL-MAR"

New 118′ tuna clipper "Cal-Mar" was Worthington-refrigerated by Ralph E. Manns Company.

ULTRA-MODERN FISH CANNERY

When Del Mar Canning Co. planned its ultra modern fish cannery at Warrenton, Oregon, Ralph E. Manns Co. was commissioned to engineer and install the refrigeration division. Similarly we have installed sardine brine, tuna-holding systems, etc., in many fish canneries.

RALPH E. MANNS CO.

Refrigeration Engineers

1030 East Anaheim Blvd. Wilmington, Calif.
2228 South Atlantic Blvd. Los Angeles 22, Calif.
1747 Pacific Highway San Diego 1, Calif.

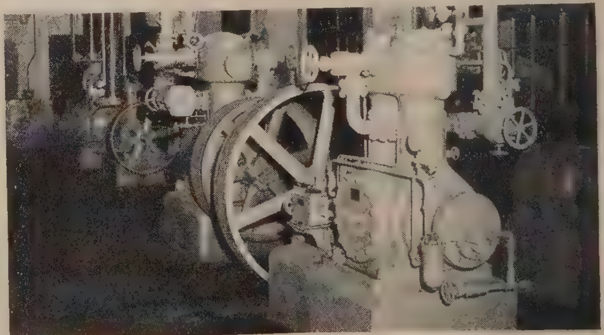
There Is No Substitute For Experience!

During the past quarter-century we have successfully undertaken and pioneered the most difficult fisheries refrigeration problems—from all-brine systems in tuna clippers and seiners to shore plants and canneries, as well as great shrimp-freezing plants along the remote Western Coast of Mexico.

TOPOLOBAMPO: Pesquera de Topolobampo, S. de R. L.

Manns Refrigeration is the leader in Mexican industry as it is on board the sardine and tuna fishing boats, because each installation is individually planned for the maximum of simplicity and efficiency.

Our staff of trained engineers and service-men are available in Mexico as in California to work out your problems.



GUAYMAS: Productos Congelados, S. A.

Ralph E. Manns has refrigerated the following:

Productos Marinos de Guaymas, S. A.
Productos Congeladados, S. A., Guaymas
Pesquera de Topolobampo, S. de R. I.
Refrigeradora del Noroeste, S. A.
Cia. Embotelladora de Culiacan, S. A. de C. V.
Corveceria del Pacifico, S. A., Mazatlan
Cerveceria Tecate, S. de R. L., Tecate
Empacadora de Conservas de Los Mochis
and many others

1948 — SAN PEDRO TUNA PACK BY MONTHS — 1948

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total
Albacore:													
1-Lb. Flats							169	995	211	1			1,376
½-Lb. Flats		17					38,323	177,165	60,687	4,488	3,049	38	283,767
Total		**17**					**38,492**	**178,160**	**60,898**	**4,489**	**3,049**	**38**	**285,143**
Bonito:													
1-Lb. Flats						949	1,979	5,206	2,027	4,317	213	191	14,882
½-Lb. Flats		195	43		1,190	2,890	35,222	66,178	22,763	3,260	418	2,417	134,576
Total		**195**	**43**		**1,190**	**3,839**	**37,201**	**71,384**	**24,790**	**7,577**	**631**	**2,608**	**149,458**
Bluefin:													
1-Lb. Flats							102						102
½-Lb. Flats	3,709	8,358	3,590		296	658	26,676	40,797	8,011	1,823			93,918
Total	**3,709**	**8,358**	**3,590**		**296**	**658**	**26,778**	**40,797**	**8,011**	**1,823**			**94,020**
Skipjack:													
1-Lb. Flats		11			209	23	294	58		4	202		801
½-Lb. Flats	4,358	4,039	3,213	5,818	12,278	11,781	32,951	44,837	36,921	15,615	5,665	12,012	189,488
Total	**4,358**	**4,050**	**3,213**	**5,818**	**12,487**	**11,804**	**33,245**	**44,895**	**36,921**	**15,619**	**5,867**	**12,012**	**190,289**
Yellowfin:													
1-Lb. Flats	64	161	264	717	2,068	579	702	498	340	212		892	6,497
½-Lb. Flats	24,408	25,735	97,138	137,235	199,044	103,710	113,489	49,570	45,432	36,537	8,342	89,134	929,774
Total	**24,472**	**25,896**	**97,402**	**137,952**	**201,112**	**104,289**	**114,191**	**50,068**	**45,772**	**36,749**	**8,342**	**90,026**	**936,271**
Yellowtail:													
1-Lb. Flats	425	38			488	575	2,623	1,179	1,726	34	116	44	7,248
½-Lb. Flats		931	1,628		1,792	14,952	43,281	24,980	17,636	1,236	1,121	581	108,138
Total	**425**	**969**	**1,628**		**2,280**	**15,527**	**45,904**	**26,159**	**19,362**	**1,270**	**1,237**	**625**	**115,386**
Tuna, flakes:													
1-Lb. Flats	154	421	281	462	548	152	965	420	773	368	4	117	4,665
½-Lb. Flats	13,234	18,379	39,720	49,472	67,051	42,992	76,152	80,521	62,841	25,033	5,437	47,585	528,417
Total	**13,388**	**18,800**	**40,001**	**49,934**	**67,599**	**43,144**	**77,117**	**80,941**	**63,614**	**25,401**	**5,441**	**47,702**	**533,082**
Tonno:													
½ Lb. Flats			**1,107**	**1,427**	**2,706**	**3,853**	**2,540**	**4,033**	**3,368**	**3,384**		**1,187**	**23,605**
Grand Total	**46,352**	**58,285**	**146,984**	**195,131**	**287,670**	**183,114**	**375,468**	**496,437**	**262,736**	**96,312**	**24,567**	**154,198**	**2,327,254**

cluding the new Morgan YP, *Corsair.* This clipper completed five trips to equatorial banks between January 7, 1948, and December 8, 1948. *Sun Hawk* proved to be top round-trip clipper of the year, Capt. George Alameda completing 10 trips. *Sun Glow* finished nine voyages, both clippers for Sun Harbor.

January-February Deliveries Good

January's receipts at San Diego's six canneries totaled 2,485 tons, with Yellowfin far in the lead with 1,965 tons. Skipjack was 442 tons; balance, bonito and yellowtail. Los Angeles harbor received 994 tons, of which 716 tons was Yellowfin. The pack at San Diego was 100,007 cases; at Los Angeles, 44,203.

February tonnage at San Diego was promising, 4,115 tons, and 175,577 cases. Again Yellowfin predominated, 3,078 tons, with Skipjack 902 tons, and Bluefin, 280 tons. Los Angeles harbor flumed 1,350 tons. Case pack: 63,710 cases.

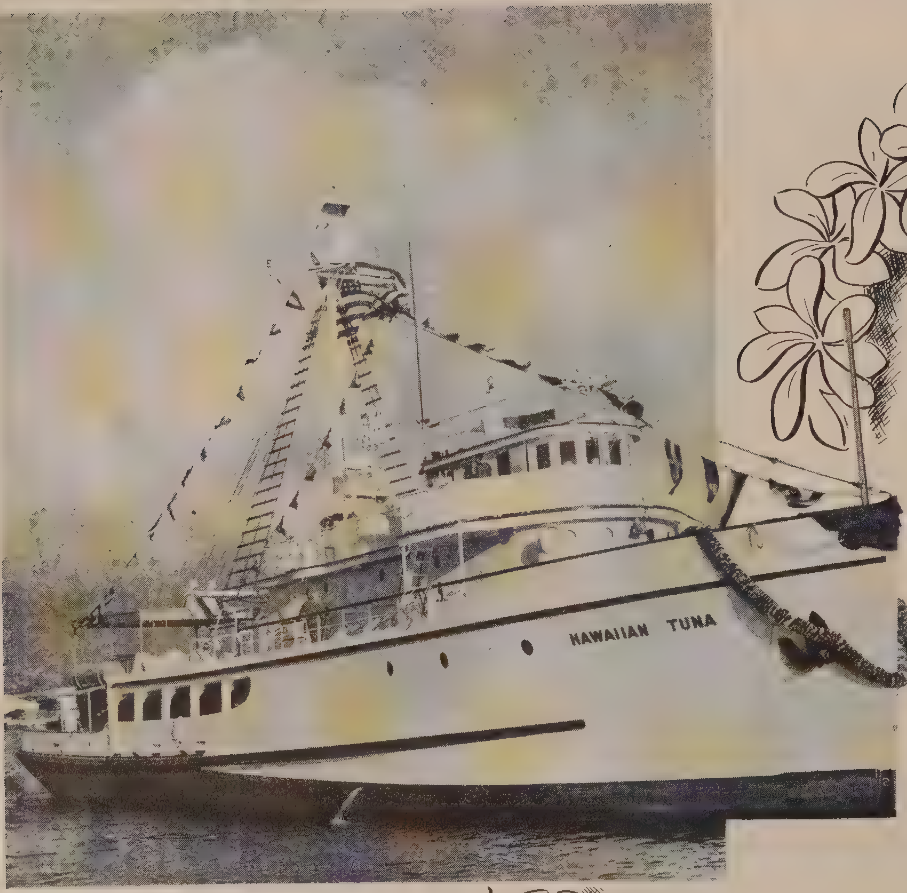
Sun Dora, converted YP, sailed on her maiden trip. The small clipper *Santa Rosalia* sprang a leak off Lower California and sank. So did the *Madelyn R,* 400 miles south of San Diego. Both crews were rescued. Fishermen were alarmed over reports that Japan was planning important shipments of round tuna, mostly Albacore, to the Pacific Coast.

First Bluefin from Mexican waters arrived January 15 in the seiner *E. S. Lucido* for South Coast Fisheries, Terminal Island. The 135′ steel tuna seiner *Santa Helena* arrived at Van Camp Sea Food Co., Terminal Island, after fishing along the way from Avondale Marine Ways, New Orleans. She had 340 tons aboard. Before the year was out the world's largest seiner had finished three trips.

California Albacore Operations--1948

San Pedro		Months	San Diego		Total California	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	**Pounds Received**	**Cases Canned**
(a) 51,680	(a) 1,547	January			**51,680**	**1,547**
667	17	February			**667**	**17**
(a) 19,445	(a) 584	March			**19,445**	**584**
		April				
		May				
		June	18		**18**	
(b) 2,615,113	(c) 41,006	July	3,159,100	60,909	**5,774,213**	**101,915**
(d) 8,054,832	(e) 191,169	August	12,487,444	270,865	**20,542,276**	**462,034**
(f) 3,392,902	(g) 79,463	September	5,569,814	115,058	**8,962,716**	**194,521**
(h) 417,214	(i) 12,569	October	621,317	14,355	**1,038,531**	**26,924**
(j) 257,194	(k) 5,134	November	33,575	647	**290,769**	**5,781**
	(l) 59	December	936	19	**936**	**78**
14,809,047	**331,548**	**Totals**	**21,872,204**	**461,853**	**36,681,251**	**793,401**

(a) All in Northern California. (b) Includes 62, 075 pounds landed in Northern California. (c) Includes 2,514 cases canned in Northern California. (d) Includes 663,276 pounds landed in Northern California. (e) Includes 13,009 cases canned in Northern California. (f) Includes 678,646 pounds landed in Northern California. (g) Includes 18, 565 cases canned in Northern California. (h) Includes 205,484 pounds landed in Northern California. (i) Includes 8,080 cases canned in Northern California. (j) Includes 75,796 pounds landed in Northern California. (k) Includes 2,085 cases canned in Northern California. (l) Includes 21 cases canned in Northern California.



HAWAIIAN TUNA

The Hawaiian Tuna, newest addition to Hawaii's growing tuna fleet, augments production of Hawaiian tuna this season, bringing tuna from areas previously beyond the range of the Hawaiian fleet. Additional production is expected to make available increased quantities of Hawaiian tuna for distribution in major markets this season. The pack meets the high standards of quality long identified with Hawaiian tuna. You'll be pleased with the uniform high quality, and find Hawaiian tuna wins the approval of your customers.

The Hawaiian Islands

Hawaiian Tuna Packers, Ltd.
HONOLULU, HAWAII, U.S.A.

1948 — California Receipts of Tunas by Months and Districts — 1948

Species	JANUARY			FEBRUARY			MARCH		
	San Pedro Pounds	San Diego Pounds	Total Pounds	San Pedro Pounds	San Diego Pounds	Total Pounds	San Pedro Pounds	San Diego Pounds	Total Pounds
Albacore	(a) 51,680		51,630	667		667	(a) 19,445		19,445
Bonito		26,482	26,482	9,985	53,917	63,902	2,206	6,865	9,071
Bluefin	(b) 231,694		231,694	(d) 590,990		590,990	291,317		291,317
Skipjack	243,037	989,383	1,232,420	334,952	1,849,259	2,184,211	301,959	279,631	581,590
Yellowfin	(c) 1,669,560	4,260,482	5,930,042	(e) 1,524,018	6,867,706	8,391,724	6,177,003	4,924,564	11,101,567
Yellowtail	48,609	148,051	196,660	(f) 123,071	211,342	334,413	88,088	23,640	111,728
Total	**2,244,580**	**5,424,398**	**7,668,978**	**2,583,683**	**8,982,224**	**11,565,907**	**6,880,018**	**5,234,700**	**12,114,718**

Species	APRIL			MAY			JUNE		
Albacore								18	18
Bonito	575	5,140	5,715	54,697	96,521	151,218	291,817	22,064	313,881
Bluefin				26,750		26,750	52,371		52,371
Skipjack	418,294	461,963	880,257	879,655	941,775	1,821,430	777,926	2,761,290	3,539,216
Yellowfin	10,058,453	11,103,865	21,162,318	12,516,782	11,963,142	24,479,924	7,079,890	14,806,343	21,886,233
Yellowtail	6,865	165,872	172,737	155,176	54,023	209,199	996,759	232,265	1,229,024
Total	**10,484,187**	**11,736,840**	**22,221,027**	**13,633,060**	**13,055,461**	**26,688,521**	**9,193,763**	**17,821,980**	**27,020,743**

Species	JULY			AUGUST			SEPTEMBER		
Albacore	(g) 2,615,113	3,159,100	5,774,213	(j) 8,054,832	12,487,444	20,542,276	(k) 3,392,902	5,569,814	8,962,716
Bonito	(h) 2,258,634		2,258,634	4,147,412	34,370	4,181,782	1,137,622	294	1,137,916
Bluefin	1,753,875	73,184	1,827,059	2,805,372	2,849	2,808,221	402,191	1,881	404,072
Skipjack	2,707,438	6,121,322	8,828,760	3,489,613	10,011,858	13,501,471	2,199,099	10,095,127	12,294,226
Yellowfin	7,474,390	9,532,441	17,006,831	2,990,851	8,140,507	11,131,358	3,390,474	12,626,929	16,017,403
Yellowtail	(i) 2,918,040	206,771	3,124,811	1,839,802	157,811	1,997,613	(l) 1,556,907	56,950	1,613,857
Total	**19,727,490**	**19,092,818**	**38,820,308**	**23,327,882**	**30,834,839**	**54,162,721**	**12,079,195**	**28,350,995**	**40,430,190**

Species	OCTOBER			NOVEMBER			DECEMBER		
Albacore	(m) 417,214	621,317	1,038,531	(n) 257,194	33,575	290,769		936	936
Bonita	627,090	41,021	668,111	20,912	77,670	98,582	83,541	56,119	139,660
Bluefin	91,791	16,370	108,161	(o) 30,162	640	30,802			
Skipjack	1,164,581	5,284,820	6,449,401	561,573	2,649,570	3,211,143	943,149	3,172,161	4,115,310
Yellowfin	2,793,160	13,365,960	16,159,120	584,845	8,841,247	9,426,092	6,357,620	22,456,537	28,814,157
Yellowtail	102,097	155,947	258,044	91,810	415,392	507,202	40,885	219,467	260,352
Total	**5,195,933**	**19,485,435**	**24,681,368**	**1,546,496**	**12,018,094**	**13,564,590**	**7,425,195**	**25,905,220**	**33,330,415**

ANNUAL RECAPITULATION

Species	San Pedro District 1948 Landings, in Pounds	San Diego 1948 Landings, in Pounds	**California Total 1948 Landings in Pounds,**	Species
Albacore	14,809,047	21,872,204	**36,681,251**	Albacore
Bonito	8,634,491	419,463	**9,053,954**	Bonito
Bluefin	6,276,513	94,888	**6,371,401**	Bluefin
Skipjack	14,021,276	44,618,159	**58,639,435**	Skipjack
Yellowfin	62,617,046	128,889,723	**191,506,769**	Yellowfin
Yellowtail	7,889,626	2,047,531	**9,937,157**	Yellowtail
TOTAL	**114,247,999**	**197,941,968**	**312,189,967**	**TOTAL**

(a) All landed in Northern California. (b) Includes 364 pounds landed in Northern California. (c) Includes 12,415 pounds landed in Northern California. (d) Includes 31,233 pounds in Northern California. (e) Includes 29,286 pounds in Northern California. (f) Includes 78,483 pounds landed in Northern California. (g) Includes 62,075 pounds in Northern California. (h) Includes 250 pounds in Northern California. (i) Includes 40 pounds in Northern California. (j) Includes 663,276 pounds in Northern California. (k) Includes 678,646 pounds in Northern California. (l) 8,404 pounds in Northern California. (m) Includes 205,484 pounds landed in Northern California. (n) Includes 75,796 pounds landed in Northern California. (o) All landed in Northern California.

March and April Fishing Fair

March tonnage dropped below February at San Diego, only 3,211 tons being flumed. Yellowfin was 2,987; Skipjack, 214 tons. Case pack was 120,428. At the northern port 3,116 tons were unloaded. Yellowfin was 2,783 tons;Skipjack 214. The pack was 136,012 cases.

More YP's joined the San Diego fleet, *Sun Pacific* and *Leona C. Mary C. Canas* arrived from Tacoma to fish for Van Camp under Joaquin Canas. Live bait supplies were hard to find anywhere, and voyages were lengthening. New steel seiner *Defiance*, Capt. Ted Lucich, started fishing for South Coast.

April saw San Diego's raw tonnage stepped up to 5,811 tons. Yellowfin totaled 5,498 tons; Skipjack was only 227 tons. The port packed 219,134 cases. Los Angeles also increased with 4,587 tons, as the seiners swung into action. Indicative of their operations, 4,420 tons was Yellowfin. Bluefin was again absent. The northern area packed 202,163 cases.

The new seiner *Pan-Pacific* sailed for her namesake cannery. The seiner *St. Joseph* struck a reef near Manzanillo, caught fire and burned. Nick Trutanich and crew were rescued. Several motherships got into operation for San Diego plants, *Reina del Mar* for San Diego Packing Company; *Spicewood* for Van Camp, and *J. A. Martinolich*, the latter being later purchased by Sun Harbor.

1948 — IMPORTS OF CANNED TUNA — 1948

COUNTRIES	JANUARY, Pounds	FEBRUARY, Pounds	MARCH, Pounds	APRIL, Pounds	MAY, Pounds	JUNE, Pounds	JULY, Pounds	AUGUST, Pounds	SEPTEMBER, Pounds	OCTOBER, Pounds	10-Month TOTAL Pounds
Angola	13,863	85,155	16,143	95,881	153,152	96,015	44,688	2,479	48,413	33,069	588,858
Azores	....	58,664	20,818	15,027	14,910	....	35,877	38,956	52,552	7,535	244,339
British West Africa	....	....	....	....	....	....	....	....	53,163	....	53,163
Canada	....	....	....	....	....	....	....	....	....	....	*7,440
Canal Zone	....	....	....	....	....	....	....	....	....	4,815	4,815
Chile	....	....	....	....	2,465	....	3,150	4,767	....	....	10,382
China	....	....	....	....	....	....	....	....	....	....	*16,362
France	....	....	....	....	....	....	....	....	....	....	*11,231
Italy	....	....	....	....	....	....	....	....	49,600	384	49,984
Japan	....	....	....	....	....	....	....	63	94,500	239,500	334,063
Peru	624,372	996,537	622,472	351,276	478,201	818,003	90,672	199,351	260,604	112,959	4,554,447
Portugal	181,926	150,465	161,288	80,791	182,071	302,944	160,348	239,760	123,920	97,393	1,680,906
Port. Guinan	....	5,842	....	1,290	....	9,510	5,644	....	....	....	22,286
Spain	....	....	....	....	....	....	....	....	....	15,079	15,079
Other	3,597	5,868	440	788	1,810	21,592	17,168	10	135	....	20,835
Total, pounds	**823,758**	**1,302,531**	**821,161**	**545,053**	**832,609**	**1,248,064**	**357,547**	**485,386**	**682,887**	**515,194**	**7,614,190**

* Segregation by months not available.

California Bonito Operations--1948

SAN PEDRO		MONTHS	SAN DIEGO		Total California	
POUNDS RECEIVED	CASES CANNED		POUNDS RECEIVED	CASES CANNED	Pounds Received	Cases Canned
....	....	January	26,482	279	**26,481**	**279**
9,985	195	February	53,917	1,258	**63,902**	**1,453**
2,206	43	March	6,865	93	**9,071**	**136**
575	....	April	5,140	76	**5,715**	**76**
54,697	1,190	May	95,521	1,903	**150,218**	**3,093**
291,817	3,839	June	22,064	564	**313,881**	**4,403**
(a) 2,258,634	(b) 37,207	July	....	....	**2,258,634**	**37,207**
4,147,412	71,384	August	34,370	756	**4,181,782**	**72,140**
1,137,622	24,790	September	294	5	**1,137,916**	**24,795**
627,090	7,577	October	41,021	600	**668,111**	**8,177**
20,912	631	November	77,670	1,368	**98,582**	**1,999**
83,541	2,608	December	56,119	1,156	**139,660**	**3,764**
8,634,491	**149,464**	**Totals**	**419,463**	**8,058**	**9,053,954**	**157,522**

(a) Includes 250 pounds landed in Northern California. (b) Includes 6 cases canned in Northern California.

Large Purse Seiners Do Well

Luck was good for long-range seiners, but not for smaller vessels. Big runs of Yellowfin were found between Manzanillo and Acapulco, as well as near Cape San Lucas, Lower California. *Alphecca,* YP, joined the fleet, and the wood clipper, *St. George* found Joe Balistreiri at the wheel again after both had seen war service. Clipper *Sun Maid* was lost by fire in Guaymas harbor.

Tempo of fishing and catches was increasing with operations in May. San Diego received 6,434 tons, while Los Angeles flumed 7,461 tons. The southern port packed 259,346 cases; the northern 288,945. Yellowfin completely dominated the catch. During May only 13 tons of Bluefin was delivered.

The YPs *St. Matthew* for People's Packing Corporation, and *Ocean Pride* joined the fleet at San Diego. The ex-YP *Pioneer,* renamed *White Sea,* sailed from Long Beach on her first trip. The seine fleet was handicapped in upper waters by lack of fuel; those working with motherships near the equator did well up to June 1.

San Diego tonnage continued upward in June, but Los Angeles harbor declined. The Southern port processed from 8,600 tons. The breakdown was: Yellowfin, 7,199 tons; Skipjack, 1,274; bonito, 14; and yellowtail, 115 tons. The San Pedro district received 4,365 tons of which 3,410 tons was Yellowfin. Bluefin was still limping along, only 26 tons.

First Albacore Taken in July

The anticipated Albacore run began in early July with Longfin found scattered over a wide area. Initial catch was by the *Sea Scamp,* delivered to Pan-Pacific. It won Doc Puccinelli's offer of $275. At Santa Catalina, Larry White's *Skipper* won the Arno Bros. prize of $100. Going price leaped to $550.

July's receipts at Los Angeles harbor were 8,946 tons, and the case pack was 375,378. The breakdown was: Yellowfin, 3,659; Skipjack, 1,074; Bluefin, 891; Albacore, 863; bonito, 948 and yellowtail, 1,511 tions. At San Diego 8,951 tons were flumed, and 382,160 cases packed.

1948 — Imports of Fresh and Frozen Tuna — 1948

COUNTRIES	MARCH, Pounds	APRIL, Pounds	MAY, Pounds	JUNE, Pounds	JULY, Pounds	AUGUST, Pounds	SEPTEMBER, Pounds	OCTOBER, Pounds	10-Months TOTAL, Pounds
Canada	55	39,527	....	....	1,160	3,980	55,621	96,000	196,343
Costa Rica	358,314	....	280,425	954,439	578,600	209,649	....	....	2,381,427
Japan	....	....	....	....	387,261	1,023,185	604,830	....	2,015,276
Mexico	....	....	....	....	377,021	1,370,670	236,455	....	1,984,146
Peru	....	....	....	....	....	....	213,123	73,252	286,375
Totals	**358,369**	**39,527**	**280,425**	**954,439**	**1,344,042**	**2,607,484**	**1,110,029**	**169,252**	**6,863,567**

NOTE:—No imports in January and February.

International Relations

International relations will play a more dominant role in the tuna industry in 1949 than during any previous year in history.

Already our government is working energetically toward reaching fair and just agreements with other nations. Continued amicable relations with these countries and protection of our industry are major objectives.

It is up to our industry's leaders, supported by loyal co-workers, to lend assistance wherever possible to U. S. State Department authorities and others who are assuming the responsibility for seeking solutions to the problems.

The successful achievement of our objectives, together with the enthusiastic and friendly concurrence on the part of the other nations involved, is vital to the future of our industry.

Inspired leadership is required.

Jack Crivello
President

Sun Harbor Packing Company

America's Foremost Packer of Tuna

TUNA

Landings of Tuna in California Since 1926

CAUGHT IN UNITED STATES WATERS

Year	Albacore	Bluefin	Bonito	Skipjack	Yellowfin	Total Pounds
1926	2,469,861	6,526.533	2,942,906	14,217,018	2,695,502	**28,851,820**
1927	4,455,372	4,898,386	1,121,476	5.802,598	595,247	**16,873,079**
1928	283,321	13,700,870	1,335,533	4,396,132	84,626	**19,800,482**
1929	269,056	7,476,370	593,886	8,032,077	199,444	**16,570,833**
1930	283,117	15,598,892	3,866,496	3,015,275	35,553	**22,799,333**
1931	37,322	2,356,775	3,014,135	11,965,616	154,024	**17,527,872**
1932	619,694	460,044	1,676,487	375,042	165,323	**3,296,590**
1933	487	324,216	1,967,244	10	6,867	**2,298,824**
1934	171,105	18,291,721	3,003,048	....	19,514	**21,485,388**
1935	2.386,249	18,495,813	2,263,740	1,907,916	529,007	**25,582,725**
1936	956,771	13,808,578	2,216,679	8,456,751	767,231	**26,206,010**
1937	3,196.770	10,822,071	5,707,212	1,884.148	187,732	**21,797,933**
1938	12,492.675	16.512,262	4,684.570	2,816	10,566	**33,702,889**
1939	12,342,671	9,318,978	6,697,249	2,718,641	457,405	**31,534,944**
1940	5,587,790	18,849,968	3,553,069	2,985,111	237,527	**31,213,465**
1941	3,276,257	8.848,147	7,200,496	4,214,373	1,739	**23,541,012**
1942	7,997,293	10,331,506	861.841	217,838	1,315	**19,409,793**
1943	11,885,815	7,663,887	801,535	17,904	2,058	**20,375,199**
1944	8,091,207	16,072,045	326,175	43,676	45,373	**24,578,476**
1945	9,505,544	14,139,076	339,664	93,078	5.159	**24,582,521**
1946	9,101,600	15,529,229	582,948	1,747,060	32,653	**26,993,490**
1947	7,387,173	14,755,622	384,315	893,046	3,234	**23,423,390**

CAUGHT IN WATERS SOUTH OF THE INTERNATIONAL BOUNDARY

Year	Albacore	Bluefin	Bonito	Skipjack	Yellowfin	Total Pounds
1926	60	....	178,698	6,734,330	9,869,484	**16,782,572**
1927	123,995	....	596,532	28,003.362	25,338,798	**54,062,687**
1928	....	....	770,370	11,551,972	32,168,580	**44,490,922**
1929	45	50,487	2,324,658	18,974,936	37.245,480	**58,595,606**
1930	....	6,322,390	1,297,764	17,470,312	56,618,628	**81,709,094**
1931	....	1,177,255	65,538	4,541,145	36,425,456	**42,209,394**
1932	....	611,162	1,185,799	21,261,535	36,758,087	**59,816,583**
1933	....	236,276	284.955	16,687,298	51,068,763	**68,277,292**
1934	....	66,107	199,646	14,830,194	60.893,646	**75,989,593**
1935	61,279	6,677,270	5,632,744	15.289,270	71,765,126	**99.425,689**
1936	....	5.116,305	4.999,237	18,549,354	77,585,413	**106,250,309**
1937	....	1,871,851	2,100,858	45,219,944	91,334,726	**140,527,379**
1938	29.919	1,215,769	3,155,423	22,650,815	78,277,578	**105,329,504**
1939	4,187	2,516,737	3,221,626	27,402,250	109,960,396	**143,105,196**
1940	880	1,120,300	1,737.895	53,665,044	113.660,682	**170,184,801**
1941	....	670,865	3,057,106	21,371,095	76,700,021	**101,799,087**
1942	2,623,900	2,513,058	788,848	38,497,344	41,166,126	**85,589,276**
1943	9,499,049	2,514,283	1,480,349	28.875,880	49,259,270	**91,628,831**
1944	9,774,659	4,259,966	492,696	29,920,701	62,190,656	**106,674,678**
1945	12,262,037	6,454,983	2,374,517	33,180,329	86,125,497	**140,397,363**
1946	8,962,447	6,502,519	5,042,700	39,130,247	126,393,035	**186,033,948**
1947	5,758,607	6,082,012	13,312,856	51,422,403	149,063,560	**225,639,438**
1948	36,681,251	6,371,401	9,053,954	58,639,435	191,506,769	**302,252,810**

GRAND TOTAL POUNDS

1926	**45,634,392**	1933	**70,576,116**	1940	**201,398.266**
1927	**70.935,766**	1934	**97,474,981**	1941	**125,340,099**
1928	**64,291,404**	1935	**125,008,414**	1942	**104,999,069**
1929	**75,166,439**	1936	**132,456,319**	1943	**112,004,030**
1930	**104,508,427**	1937	**162,325.312**	1944	**131,253,154**
1931	**59,737,266**	1938	**139,032,393**	1945	**164,479,884**
1932	**63,113,173**	1939	**174,640,140**	1946	**213,027,438**
				1947	**249,062,828**

NOTE.—Segregation of 1948 landings as to origin not available.

All fish caught in U. S. waters were caught in California waters, except the following, which were caught off the Oregon-Washington coast: Albacore, 11,176 lbs. in 1936; 1,176,754 lbs. in 1937; 7,702,795 lbs. in 1938; 4,078,562 lbs. in 1939; 3,255,858 lbs. in 1940 854,103 lbs. in 1941; 448,446 lbs. in 1942. In addition to items included in this table, California canneries in 1941 received 444,340 lbs. of Albacore and 121,596 lbs. of Skipjack from Japan.

Here the split was, Yellowfin, 4,936; Skipjack, 2,768; Bluefin, 36; Albacore, 1,104, and yellowtail, 107 tons. *Sun Dawn, Ronnie S* and *Marriner,* all converted YPs, sailed for their initial trips. The new wood clipper *Coronado* arrived from Tacoma and departed for Westgate Sea Products Company July 19.

Galapagos Seining Rules Relaxed

Of importance to the tuna seining fleet was the opening of the "area of vigilance" at the Galapagos Islands to netting operations, opening these rich banks for the first time. Before the year ended heavy tonnage had been delivered either to motherships or brought home from this area. The announcement of the opening was made July 2.

Bluefin was written off as almost a total failure by August 1 and 1948 ended with around 2,000 tons seined altogether against 9,711 tons the previous year. On the otherhand Albacore hit a terrific pace and, before the season was finished had registered over 15,000 tons, this against 5,352 tons in 1947.

Albacore Bidding Reaches $750

Competitive bidding for Longfin tuna brought a golden harvest to fishermen, the fish going as high as $750 per ton. Packers, with the greatest catch in history flooding their flumes finally cooled off and the end-of-the-season price had dropped to $500. By August 10 a total of 6,000 tons had been unloaded at Southern California ports.

August was to see all tonnage records broken, nearly 25,000 tons, all grades arriving at the combined receiving ports. San Diego got 14,165 tons: Yellowfin, 4,066; Skipjack, 4,776; Albacore, 5,227; Bluefin, 2; yellowtail, 94 tons. Los Angeles-Long Beach unloaded 10,013, with Albacore leading with 3,664 tons. San Diego packed 657,537 cases; Los Angeles, 495,003.

Albacore was swarming into the banks off the top banks of Lower California; in fact here was where the majority of tonnage was caught. Southern California waters were none too productive all season. Dockside price dropped to $560; barges, $520.

Yankee Mariner, only YP to be converted to a seiner, returned from her maiden voyage to the tropics

California Skipjack Operations--1948

San Pedro		Months	San Diego		Total California	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	**Pounds Received**	**Cases Canned**
243,037	4,358	January	989,383	16,608	**1,232,420**	**20,966**
334,952	4,050	February	1,849,259	30,735	**2,184,211**	**34,785**
301,959	3,213	March	279,631	5,553	**581,590**	**8,766**
418,294	5,818	April	461,963	7,277	**880,257**	**13,095**
879,655	12,487	May	941,775	15,809	**1,821,430**	**28,296**
777,926	11,804	June	2,761,290	43,300	**3,539,216**	**55,104**
2,707,438	33,245	July	6,121,322	100,216	**8,828,760**	**133,461**
3,489,613	44,909	August	10,011,858	159,965	**13,501,471**	**204,874**
2,199,099	36,921	September	10,095,127	161,866	**12,294,226**	**198,787**
1,164,581	15,619	October	5,284,820	88,076	**6,449,401**	**103,695**
561,573	5,867	November	2,649,570	42,052	**3,211,143**	**47,919**
943,149	12,012	December	3,172,161	54,450	**4,115,310**	**66,462**
14,021,276	**190,303**	**Totals**	**44,618,159**	**725,907**	**58,639,435**	**916,210**

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The 1948 combined catch of these four outstanding tuna clippers totaled several thousand tons, returning owners and crews more than $1,000,000 in gross earnings.

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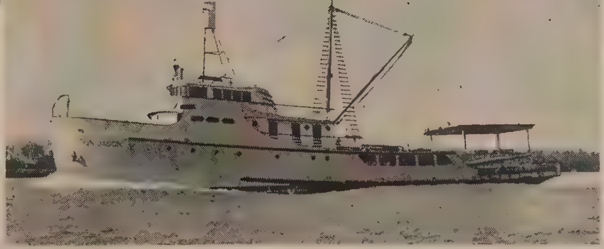

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DEPENDABLE REFRIGERATION BY KOHLENBERGER

California Yellowfin Operations--1948

San Pedro		Months	San Diego		Total California	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	**Pounds Received**	**Cases Canned**
(a) 1,669,560	(b) 24,925	....January..........	4,260,482	83,338	**5,930,042**	**108,263**
(c) 1,524,018	(d) 26,664	....February.........	6,867,706	129,476	**8,391,724**	**156,140**
6,177,003	97,402	....March...........	4,924,564	102,058	**11,101,567**	**199,460**
10,058,453	137,952	....April............	11,103,865	186,318	**21,162,318**	**324,270**
12,516,782	201,112	....May.............	11,963,142	208,341	**24,479,924**	**409,453**
7,079,890	104,289	....June............	14,806,343	256,612	**21,886,233**	**360,901**
7,474,390	114,191	....July.............	9,532,441	180,192	**17,006,831**	**294,383**
2,990,851	50,068	....August..........	8,140,507	143,480	**11,131,358**	**193,548**
3,390,474	45,772	....September.......	12,626,929	215,529	**16,017,403**	**261,301**
2,793,160	36,749	....October.........	13,365,960	280,875	**16,159,120**	**317,624**
584,845	8,424	....November.......	8,841,247	142,621	**9,426,092**	**151,045**
6,357,620	90,026	....December.......	22,456,537	425,827	**28,814,157**	**515,853**
62,617,046	**937,574**	....**Totals**..........	**128,889,723**	**2,354,667**	**191,506,769**	**3,292,241**

(a) Includes 12,415 pounds landed in Northern California.
(b) Includes 453 cases canned in Northern California.
(c) Includes 29, 286 pounds landed in Northern California.
(d) Includes 768 cases canned in Northern California.

and unloaded at Sun Harbor. Van Camp received an experimental fare of 139 tons, frozen Albacore from Japan.

September Yields Heavy Tonnage

During September San Diego received another bumper crop, 13,072 tons. Yellowfin was 5,510 tons; Skipjack, 5,008; Albacore, 2,538 and yellowtail, 16 tons. Packed were 550,222 cases. Los Angeles received 6,323 tons: Yellowfin, 1,736; Skipjack, 1,427; Bluefin, 280; Albacore, 1,419, bonito, 643 and yellowtail, 818 tons. Packed were 269,430 cases. Local waters yielded only 50 tons, Bluefin.

Far-southern vessels were having trouble with "green" fish, some 500,000 lbs. being rejected during the month. With fish showing on the "local" banks, trips were being accomplished in as little as two weeks. The new wood clipper *Elena* departed for Van Camp.

October's receipts at San Diego were 10,626 tons. Yellowfin continued high with 7,576 tons; Skipjack following with 2,665; Albacore had dropped to 300 tons. Packed were 416,402 cases. Los Angeles harbor unloaded, to October 25, 2,352 tons. Albacore catch was only 84 tons. To that date, 49,507 cases were packed.

The big clipper, *America* burned at sea October 14 off Lower California. On November 2, the seiner *General MacArthur* also burned and sank at the Galapagos Islands. The YP *Sonya* joined the fleet, October 14.

The AFL union at San Diego notified owners they wanted for members an apportionate share of a $40 raise in raw tonnage price for Yellowfin and Skipjack effective November 1. After an investigation of existing conditions, with the possibility of a large carryover into 1949, the union withdrew its demand.

The San Diego catch for November was 4,444 tons. Yellowfin totaled 3,100 tons; Skipjack, 1,104. Albacore was dying, only 14 tons being registered. Packed were 209,113 cases. The northern district received 790 tons total in November, and processed 50,297.

It was estimated on November 15 there were 200 tuna clippers and some 15 seiners at sea. Less than 10 hook-and-liners were out of port when December ended, and all seiners except the *Discovery* and *Vindicator* had come home. Seiners operating in far-southern waters were estimated to have caught some 5,000 tons, mostly Yellowfin. The majority of the tonnage was delivered to the freezerships *Saipan* and *Tinian*.

The employment of these freezerships constituted one of the noteworthy developments of the tuna industry in 1948. They were tied-up for a time at the end of that year by a labor dispute as to who was to discharge cargo, but this was adjusted and the vessels prepared to resume operations early in 1949.

Freezership activities were facilitated by liberalization of the Ecuadorean regulations governing such craft.

They now are permitted to remain in Galapagos waters as long as may be necessary to complete their cargo.

Canners Seek to Abandon Guaranteed Price Policy

San Diego canneries notified their contract fleets on November 17 that thereafter they would pay only the

British Columbia Frozen Fish Packs--1928 to 1948

Year	Halibut, Pounds	Salmon, Pounds	Steelhead and Fillets Pounds	Sablefish, Pounds	Miscellaneous, Pounds	**Total Pounds**	Year
1928............	6,922,064	10,183,276	503,798	707,488	1,793,317	**20,190,943**	1928
1929............	7,013,413	7,971,042	324,123	533,000	1,305,898	**17,147,476**	1929
1930............	5,375,642	6,544,460	414,720	645,142	741,386	**13,721,350**	1930
1931............	5,467,170	5,758,952	414,000	292,829	240,469	**12,173,420**	1931
1932............	6,197,495	7,672,062	533,244	307,922	228,740	**14,939,463**	1932
1933............	6,620,254	7,158,967	344,974	388,751	471,924	**14,984,870**	1933
1934............	8,956,815	10,182,469	40,672	180,119	920,509	**20,280,582**	1934
1935............	9,756,717	10,707,787	226,000	789,000	861,860	**22,341,364**	1935
1936............	9,504,340	11,320,303	234,690	1,266,555	742,043	**23,062,931**	1936
1937............	9,550,661	11,698,592	200,361	1,378,442	698,481	**23,526,537**	1937
1938............	10,870,867	12,662,933	324,000	1,329,009	987,260	**26,174,069**	1938
1939............	13,414,006	9,631,742	189,516	1,080,053	813,956	**25,129,273**	1939
1940............	13,453,612	11,347,239	237,000	1,285,915	1,317,404	**27,641,170**	1940
1941............	14,560,498	9,632,364	91,913	1,604,554	966,559	**26,855,888**	1941
1942............	16,571,639	12,150,338	18,046	1,697,327	3,541,929	**33,979,279**	1942
1943............	10,397,337	13,313,250	60,076	2,320,559	2,667,881	**28,759,103**	1943
1944............	12,574,036	14,793,573	572,315	1,856,055	3,763,055	**33,559,190**	1944
1945............	10,290,942	19,931,674	1,745,529	1,254,623	5,890,142	**39,112,910**	1945
1946............	12,782,294	14,384,544	1,972,000	1,778,855	11,486,110	**42,403,803**	1946
1947............	14,930,795	13,583,850	1,057,828	729,492	6,357,106	**36,659,071**	1947
1948............	11,512,287	15,209,533	1,650,856	1,651,028	18,236,028	**48,259,732**	1948

NOTE:—Since 1942 all Steelheads have been combined with Salmon; and figures given in the "Steelheads and Fillets" Column for years since 1942 cover quantities of fillets of all varieties of fish reported.

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California Albacore Landings by Ports — 1947 and 1948

Month and Year	Eureka Region, Pounds	San Francisco Region, Pounds	Monterey Region, Pounds	Santa Barbara Region, Pounds	Los Angeles Region, Pounds	San Diego Region, Pounds	**California Total Pounds**	Month and Year
1948								**1948**
June	....	....	....	....	20	65	**85**	June
July	1,558	6,218	83,277	4,926	1,295,565	4,560,831	**5,952,375**	July
August	60,595	32,269	588,632	135,486	5,283,050	14,124,048	**20,224,080**	August
September	628,455	387,868	450,577	206,679	1,732,173	5,552,075	**8,957,827**	September
Total	**690,608**	**426,355**	**1,122,486**	**347,091**	**8,310,808**	**24,237,019**	**35,134,367**	**Total**
1947								**1947**
April	....	27	....	....	2,373	....	**2,400**	April
June	....	....	....	....	74,641	341,208	**415,849**	June
July	121	....	....	1,370	577,230	2,498,405	**3,077,126**	July
August	164,255	1,247	4,943	11,156	2,101,548	4,224,985	**6,508,134**	August
September	214,621	30,922	200,870	232,712	262,022	343,763	**1,284,910**	September
October	152,120	327,716	968,846	455,772	43,220	68,399	**2,016,073**	October
November	....	12,883	97,481	6,244	4,779	1,402	**122,789**	November
Total	**531,117**	**372,795**	**1,272,140**	**707,254**	**3,065,813**	**7,478,162**	**13,427,281**	**Total**

prevailing raw-fish price for tuna on date of delivery, rather than that in effect on departure. This was a direct reversal of a policy that had been in effect for 20 years.

As a result the fleet faced a tie-up around the first of the year as the unions refused to go along, demanding $340 per ton for basic Yellowfin at time of departure. Van Camp Sea Food Company however, rescinded its order and sent several clippers to sea in early December. No clippers sailed for other canneries before January 1. The illfated baby clipper *Adventurer* sank off Lower California.

In the fall George A. Wallace resigned as general manager of the American Tunaboat Association, San Diego. His place was taken by Harold F. Cary, former manager, Lynch Shipbuilding Company. Before the year ended new ATA officers were chosen by a newly elected board of 20 members. New president is Manuel G. Rosa, owner of a fleet of tuna clippers; William A. Hoss was re-elected vice president, and Louis DeFalco renamed secretary.

At San Pedro, Dominic Liubetich continued through 1948 as president of the Fishermen's Cooperative Association; Nick Mezin, vice president; George Felando, treasurer and George A. Webb as general manager. In January, 1949, Capt. John Zankich of the seiner *Vittoria* was elected president of the Fishermen's Cooperative Association, with Tony Barcott of the *Coral Sea,* vice president.

The Lower California Fisheries Association continued Anthony Chiappe as president, with Joe J. Camillo as manager.

During December tremendous tonnage poured into the cannery flumes. By the 15th, a total of 43 clippers had come home to San Diego, unloading 4,500 tons, with a possible 6,000 more tons anticipated. At Los Angeles harbor, 2,000 more tons had been flumed by the middle of the month.

The wood clipper, *Conqueror* arrived at San Diego from Tacoma and the last of the YPs, *Cape Falcon,* renamed from *Redondo* sailed for Van Camp. At Los Angeles harbor the last of the seiners out came in, including *Santa Helena, Defense, Anthony M, Golden West, Spartan, Cavalieri, Cesare Augusto* and others.

California Bluefin Operations--1948

San Pedro		Months	San Diego		**Total California**	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	**Pounds Received**	**Cases Canned**
(a) 231,694	(b) 4,847	....January	....	....	**231,694**	**4,847**
(c) 590,990	(d) 8,949	....February	....	....	**590,990**	**8,949**
291,317	3,590	....March	....	....	**291,317**	**3,590**
....	....	....April	....	....	....	....
26,750	296	....May	....	....	**26,750**	**296**
52,371	658	....June	....	....	**52,371**	**658**
1,753,875	26,778	....July	73,148	1,608	**1,827,023**	**28,386**
2,805,372	40,870	....August	2,849	11	**2,808,221**	**40,881**
402,191	8,011	....September	1,881	67	**404,072**	**8,078**
91,791	1,823	....October	16,370	261	**108,161**	**2,084**
(e) 30,162	(f) 454	....November	640	34	**30,802**	**488**
....	....	....December	....	....	....	....
6,276,513	**96,276**	....**Totals**	**94,888**	**1,981**	**6,371,401**	**98,257**

(a) Includes 364 pounds landed in Northern California. (b) Includes 1,138 cases canned in Northern California. (c) Includes 31,233 pounds landed in Northern California. (d) Includes 591 cases canned in Northern California. (e) All landed in Northern California. (f) All packed in Northern California.

California Yellowtail Operations--1948

San Pedro		Months	San Diego		**Total California**	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	**Pounds Received**	**Cases Canned**
48,609	425	....January	148,051	2,061	**196,660**	**2,486**
44,588	969	....February	211,342	2,938	**255,930**	**3,907**
88,088	1,628	....March	23,640	135	**111,728**	**1,763**
6,865	....	....April	165,872	2,545	**172,737**	**2,545**
155,176	2,280	....May	54,023	726	**209,199**	**3,006**
996,759	15,527	....June	232,265	4,289	**1,229,024**	**19,816**
(a) 2,918,040	(b) 45,905	....July	206,771	3,878	**3,124,811**	**49,783**
1,839,802	26,159	....August	157,811	2,935	**1,997,613**	**29,094**
(c) 1,556,907	19,362	....September	56,950	983	**1,613,857**	**20,345**
102,097	1,270	....October	155,947	1,958	**258,044**	**3,228**
91,810	(d) 1,351	....November	415,392	4,724	**507,202**	**6,075**
40,885	625	....December	219,467	4,190	**260,352**	**4,815**
7,889,626	**115,501**	....**Totals**	**2,047,531**	**31,362**	**9,937,157**	**146,863**

(a) Includes 40 pounds landed in Northern California. (b) Includes 1 case canned in Northern California. (c) Includes 8,404 pounds landed in Northern California. (d) Includes 114 cases canned in Northern Calif.

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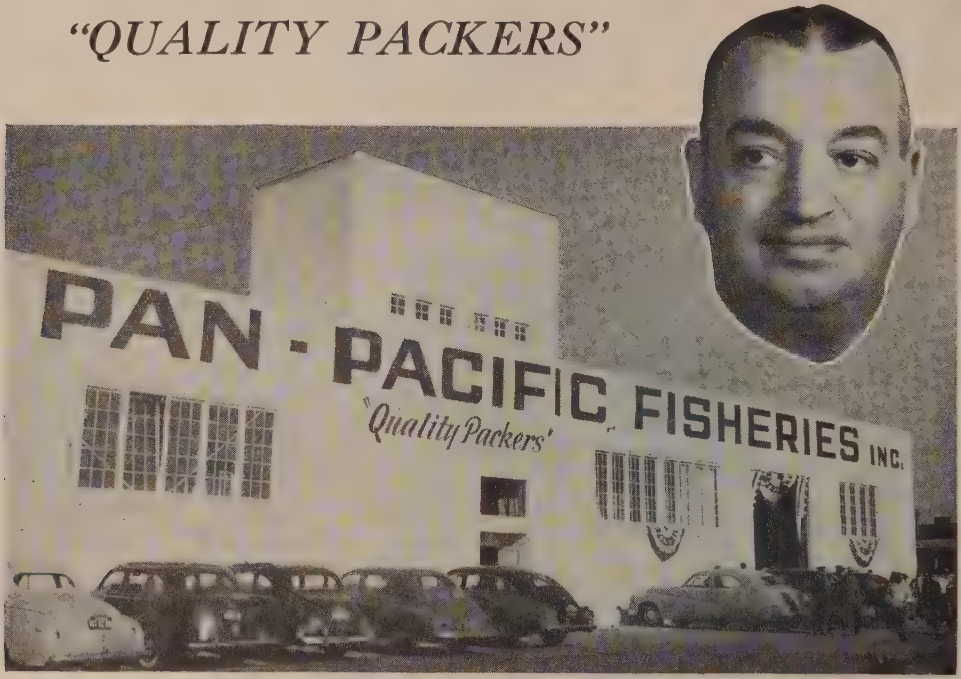
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MACKEREL

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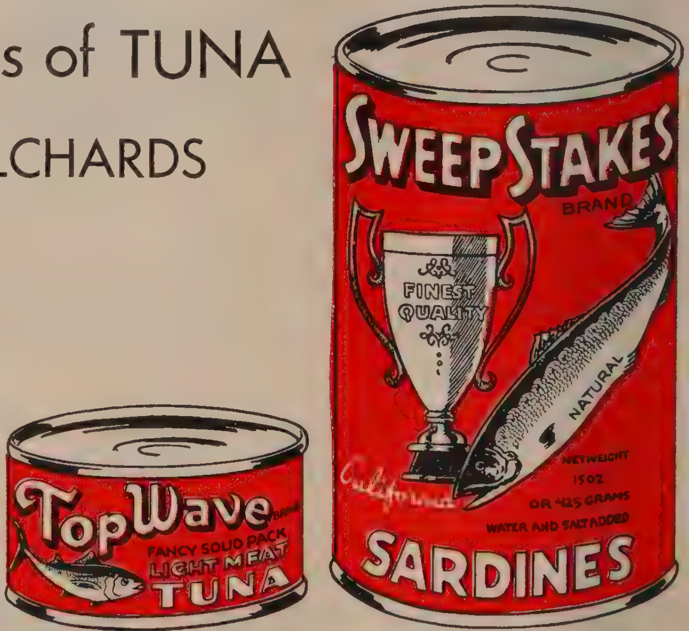
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Fancy Solid Pack
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Tuna
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Brand
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California
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SUNSET	San Diego
SUN DIAL	San Diego
CHICKEN OF THE SEA	San Diego
AMERICAN BOY	San Diego
JOAN OF ARC	San Diego
PRINCESS PAT	San Diego
VELERO IV	San Diego
VICTORIA	San Diego
MAURETANIA	San Diego
SUN KING	San Diego
CONTE DI SAVOIA	San Diego
LUCKY STAR	San Diego
WEST POINT	San Diego
KITTY HAWK	San Diego
SUN HARBOR	San Diego
CAROL VIRGINIA	San Diego
PARAMOUNT	San Diego
JENITA	San Diego
SPORT FISHER IV	San Diego
SPORT FISHER VI	San Diego
ALALUNGA	Newport Beach
SHRIMP BOATS (4)	Mexico

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ESPIRITO SANTO (*Metallized in 1946*)

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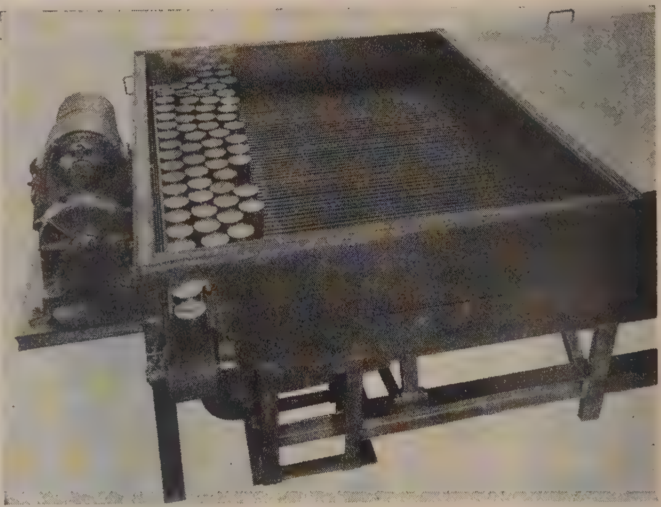

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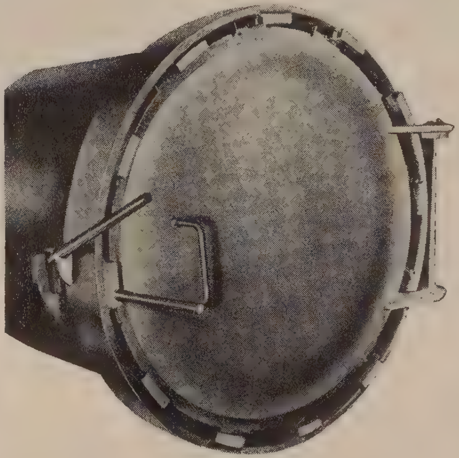

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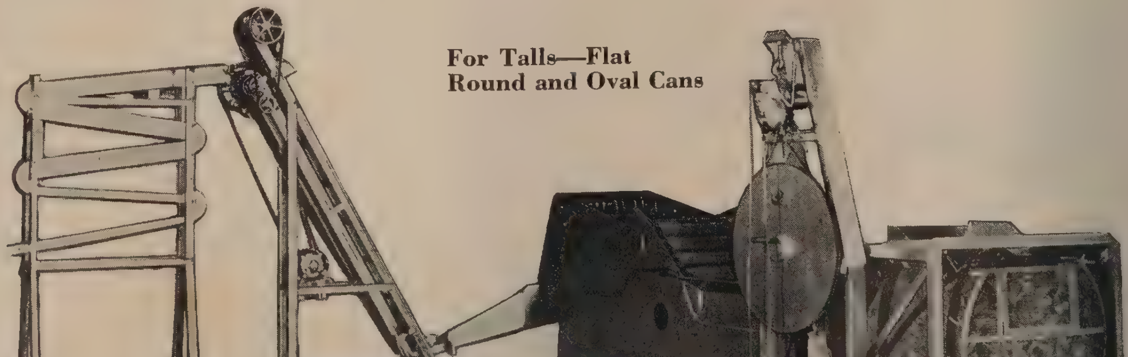

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Albacore tuna canning in the Pacific Northwest in 1948 produced 447,354 cases, the third-largest pack in the history of business.

The pack compared with 385,000 cases produced in 1947. It was short only of the 846,596 cases packed in 1944 and the 466,859 cases canned in 1945.

British Columbia entered tuna canning on a commercial scale for the first time in 1948.

The high hopes that 1948 would yield a North Pacific Albacore pack second only to the Bonanza Year 1944 faded when the late season failed to provide the usual fishing for bait boats, and when fishing faltered in September and fell flat earlier than usual.

The Oregon-Washington pack consisted of 417,354 cases, against 385,000 in 1947, but to the 1948 figures must be added 30,000 cases packed in British Columbia.

The Province entered the tuna canning field on a commercial basis for the first time in 1948. In previous years virtually the entire tuna landings of British Columbia were shipped frozen to the United States for canning. The only tuna retained were for experimental packing.

In 1948, however, five Canadian firms engaged in canning tuna, and it must be expected that British Columbia will continue as a factor in the industry.

1948 — PACIFIC NORTHWEST ALBACORE PACK — 1948

Company	Cannery Location	Fancy and Standard	Shredded, Grated and Flakes		Total Standard Cases, 4 dozen ½ Lb. Cans
		½-Lb. Flat 48s	White Meat ½-Lb. 48s	Blended White and Dark ½-Lb. 48s	
OREGON AND WASHINGTON					
Barbey Packing Corporation	Astoria, Ore	5,170	620	1,070	**6,860**
Chinook Packing Co	Chinook, Wash	1,072	197	275	**1,544**
Columbia River Packers Association, Inc	Astoria, Ore	89,632	17,993	26,866	**134,491**
Columbia River Salmon Co	Astoria, Ore	23,174	3,893	6,199	**33,266**
Crown Packers, Inc	Hoquiam, Wash	8,662	586	2,637	**11,885**
Del Mar Canning Co	Warrenton, Ore	2,173	583	452	**3,208**
Kaakinen Fish Co	Westport, Wash	3,617	413	1,065	**5,095**
Nelson Crab & Oyster Co	Tokeland, Wash	1,500		1,000	**2,500**
New England Fish Co	Newport, Ore	7,066	1,347		**8,413**
Paragon Packing Co	Astoria, Ore	9,695	1,672	1,304	**12,671**
	Hoquiam, Wash	10,115	2,903	1,907	**14,925**
Point Adams Packing Co	Hammond, Ore	(a) 25,264	(b) 4,960	3,192	**33,416**
Sebastian-Stuart Fish Co	Astoria, Ore	10,631	4,063		**14,694**
	Anacortes, Wash	636	197		**833**
South Bend Oyster Co	South Bend, Wash	3,618	330	1,777	**5,725**
Strand Fisheries	Hoquiam, Wash	5,452	545		**5,997**
Union Fishermen's Cooperative Packing Co	Astoria, Ore	16,496	1,901	5,571	**23,968**
Van Camp Sea Food Co	Astoria, Ore	12,893	9,620		**22,513**
Washington Fish Co	Aberdeen, Wash	906	172	204	**1,282**
West Coast Fish Co	Aberdeen, Wash	10,060	1,606	1,279	**12,945**
Whiz Fish Products Co	Hoquiam, Wash	16,769	2,423	5,306	**24,498**
Wuari, K	Astoria, Ore	216			**216**
Yaquina Bay Fish Co	Newport, Ore	28,728	1,931	5,750	**36,409**
Totals, Oregon and Washington		**293,545**	**57,955**	**65,854**	**417,354**
(c)BRITISH COLUMBIA					
British Columbia Packers, Ltd.		20,000	10,000		**30,000**
Canadian Fishing Co.					
Fishermen's Cooperative Federation					
Nelson Bros. Fisheries					
Tulloch Fisheries					
North Pacific Totals		**313,545**	**67,955**	**65,854**	**447,354**

(a) Includes 3,082 cases of 48 one-pound flats, counted here on the basis of 6,164 standard cases of halves.
(b) Includes 700 cases of 48 one-pound flats, counted here on the basis of 1,400 standard cases of halves.
(c) Segregation of British Columbia pack between operators not available. Total pack figures are preliminary, and division between grades approximate.

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NORTH PACIFIC ALBACORE TUNA LANDINGS

OREGON				WASHINGTON					Combined Oregon and Washington Landings, Pounds
Columbia River, Pounds	South of Columbia, Pounds	Oregon Total, Pounds	1948	Puget Sound, Pounds	Grays Harbor, Pounds	Willapa Harbor, Pounds	Columbia River, Pounds	Washington State Total, Pounds	
1,990,811	652,747	2,643,558	July	62,312	1,578,549	58,561	162,821	1,862,243	4,505,801
2,723,713	962,938	3,686,651	August	390,672	3,318,286	123,892	348,561	4,181,411	7,868,062
932,365	422,249	1,354,614	September	169,900	116,808	61,822		348,530	1,703,144
33,053	124,329	157,382	October	14,938	36,521	6,890		58,349	215,731
5,679,942	**2,162,263**	**7,842,205**	**1948 TOTALS**	**637,822**	**5,050,164**	**251,165**	**511,382**	**6,450,533**	**14,292,738**
			1947						
673,647	362,169	1,035,816	July	45,505	1,037,929	43,786	140,469	1,267,689	2,303,505
2,027,945	584,636	2,612,581	August	177,831	2,153,029	92,529	260,545	2,683,934	5,296,515
2,092,618	2,304,774	4,397,392	Septmeber	8,563	65,899	10,785		85,247	4,482,639
817,813	310,021	1,127,834	October	25,480	32,898			58,378	1,186,212
5,612,023	**3,561,600**	**9,173,623**	**1947 TOTALS**	**257,379**	**3,289,755**	**147,100**	**401,014**	**4,095,248**	**13,268,871**
			1946						
323,331	70,559	393,890	July	172	289,029	23,505	46,995	359,701	753,591
1,741,573	629,466	2,371,039	August	24,675	778,484	33,936	148,526	985,621	3,356,660
1,155,319	30,556	1,185,875	September	165,491	624,818		1,743	792,052	1,977,927
3,220,223	**730,581**	**3,950,804**	**1946 TOTALS**	**190,338**	**1,692,331**	**57,441**	**197,264**	**2,137,374**	**6,088,178**
			1945						
			June		42		6,730	6,772	6,772
1,147,222	306,909	1,454,131	July	119,847	1,850,105	21,572	196,118	2,187,642	3,641,773
6,290,075	1,612,425	7,902,500	August	92,797	3,009,811	75,900	335,131	3,513,639	11,416,139
2,327,060	262,702	2,589,762	September	28,130	140,779	28,609	9,608	207,126	2,796,888
231,978		231,978	October	104,491	45,882	517		150,890	382,868
			November	842	44			886	886
9,996,335	**2,182,036**	**12,178,371**	**1945 TOTALS**	**346,107**	**5,046,663**	**126,598**	**547,587**	**6,066,955**	**18,245,326**
			1944						
975,332	612,585	1,587,917	July	34,686	741,058	3,347	247,912	1,027,003	2,614.920
6,288,455	2,690,529	8,978,984	August	141,553	4,683,789	68,714	660,234	5,554,290	14,533,274
7,708,799	1,069,649	8,778,448	September	279,354	3,536,677	161,052	125,037	4,102,120	12,880,568
3,014,988	58,367	3,073,355	October	206,906	786,177		14,355	1,007,438	4,080,793
17,987,574	**4,431,130**	**22.418.704**	**1944 TOTALS**	**662,499**	**9,747,701**	**233,113**	**1,047,538**	**11,690,851**	**34,109.555**
			1943						
1,333,241	419,371	1,752,612	July		300,247		185,711	485,958	2,238,570
2,922,206	1,160,977	4,083,183	August	22,920	1,393,057		338,333	1,754,310	5,837,493
2,646,887	689,252	3.336,139	September	169,788	1,566,949		132,534	1,869,271	5,205,410
1,067,015	147,007	1,214,022	October	284,112	250,411		4,616	539,139	1,753,161
7,969,349	**2,416,607**	**10,385 956**	**1943 TOTALS**	**476,820**	**3,510,664**		**661,194**	**4,648,678**	**15,034,634**
			1942						
Division of avail	Landings not able.	2,040,981	July		177,522	900	175,975	354,397	2,395,378
		4,799,557	August	30,131	777,508	7,576	369,717	1,124,932	5,924,489
		3,701,392	September	11,162	282,703	74,406	55,346	423,617	4,125,009
		401,026	October	9,365	46,619	206	15,922	72,112	473,138
		10,942,956	**1942 TOTALS**	**50,658**	**1,284,352**	**83,088**	**556,960**	**1,975,058**	**12,918,014**
			1941						
514,084	264,806	778,890	July	643	20,459		74,468	95,570	874,460
4,700,037	952,512	5,652,549	August	15,428	359,407		381,037	755,872	6,408,421
756,615	307,356	1,063,971	September	34,218	90,562	149	38,618	163,547	1,227,518
44,315	122	44,437	October	28,711	6,664			35,375	79,812
5,284		5,284	November						5,284
6,020,335	**1,524,796**	**7,545,131**	**1941 TOTALS**	**79,000**	**477,092**	**149**	**494,123**	**1,050,364**	**8,595,495**

Washington's Share of Pack Shows Very Sharp Increase

A notable feature of 1948 Albacore canning in the Pacific Northwest was the remarkable degree to which the Washington pack increased over the previous year.

The 1948 pack in Washington ran to 87,229 cases, actually exceeding the production of the great 1944 season by more than 30,000 cases, and establishing a record for the state.

This continued a trend which has been manifest in Washington tuna canning for the past several years. It resulted directly from the very heavy early-season jigboat deliveries, which centered largely on Grays Harbor.

Oregon production, on the other hand, increased but narrowly in 1948, and followed very closely the pattern of the previous year so far as grade division of the pack was concerned.

Two Striking Features Of 1948 Northern Albacore

The North Pacific Albacore run of 1948 was marked by two extraordinary features, characteristics which set it apart from the pattern of previous years.

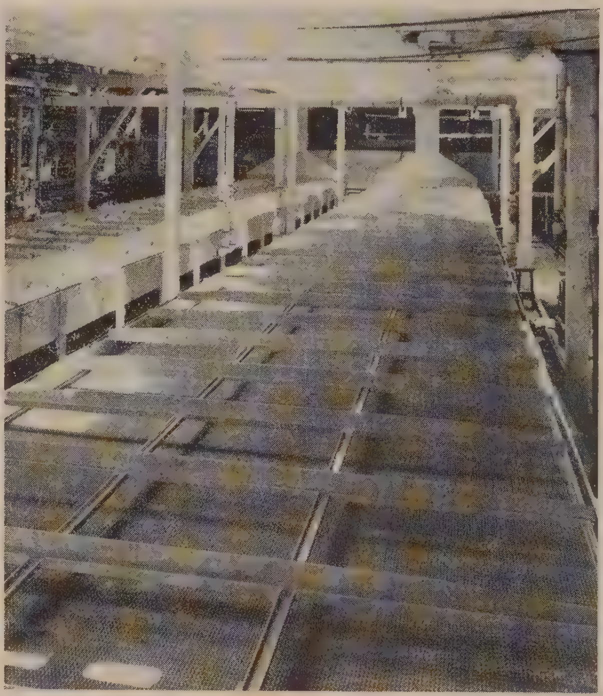
First of these was the exceptional extent to which the season's catch was taken by means of jigging;

Second, the appearance of the fish —or at least their discovery — in substantial quantities off the coast of British Columbia.

Jig Boats Do Well, Bait Craft Unfortunate

While it is to be expected that jig boats will dominate the fishing during the early weeks of the season, in

ASHWORTH BALANCED WEAVE WIRE BELTS



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Will handle any size or shape of Can without adjustment. Easy to install, maintain and clean.

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Reduces processing costs by 50%.

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NORTH COAST ALBACORE BY GRADES—1939 to 1948

OREGON				Year	PACIFIC NORTHWEST Combined Totals, Standard Cases	Year	WASHINGTON			
Fancy and Standard Cases	Flakes		Total Standard Cases				Total Standard Cases	Flakes		Fancy and Standard Cases
	White	Blended						Blended	White	
231,138	48,583	50,404	**330,125**	1948	**417,354**	1948	**87,229**	15,450	9,372	62,409
231,075	50,163	45,464	(a) **326,702**	1947	(a) **385,570**	1947	**58,868**	5,876	11,179	41,813
101,478	23,477	19,674	**144,629**	1946	**192,237**	1946	**47,608**	7,251	5,708	34,649
274,720	69,454	55,674	(d) **399,848**	1945	**466,859**	1945	**67,011**	7,391	9,440	50,18[illegible]
564,574	106,777	119,005	**790,356**	1944	(b) **846,596**	1944	**56,240**	....	16,240	40,000
250,982	39,554	....	**290,536**	1943	**301,414**	1943	**10,878**	....	1,775	9,103
....	....	....	**307,810**	1942	**314,353**	1942	**6,543**	....	....	....
....	....	....	**194,751**	1941	**197,629**	1941	**2,878**	....	....	....
....	....	....	**197,735**	1940	**207,723**	1940	**10,188**	....	....	....
....	....	....	**153,702**	1939	(c) **173,359**	1939	**15,857**	....	....	....

(a) Includes 3,231 cases fancy and 985 cases flakes canned at Eureka, Calif.
(b) Division of 1944 pack as to grades is approximate only.
(d) Includes a small quantity canned at Ilwaco, Wash.
(c) Includes 3,800 cases canned in British Columbia.

NOTE:—Grade segregations not available for years prior to 1943. Figures for the several calendar years cover quantities packed from fish caught during those years, even though in some cases canning of frozen stocks may not have been completed until the next calendar year.

1948 they continued to enjoy good fishing much later than usual in the season, while the bait boats at no time found really flush fishing. Bait was available, and Albacore were abundant, but the fish did not seem to school heavily, and were dispersed over great areas of ocean.

As result of this condition, the smaller craft, not capable of carrying bait tanks, actually had a better season than the large vessels.

Moreover, the fish were found quite close to shore, easily within reach of the smaller craft.

First 1948 Albacore Discharged on July 7

The first catch of Albacore to be sold in a Pacific Northwest port in 1948 consisted of 2,000 lbs., delivered by the *Silver Spray*, Capt. Erling Thompson to Strand Fisheries at Hoquiam.

The second craft with fish was Capt. Neil Burton's *Dorene B.* and soon the Canadian patrol boat reported that she was in fish 83 miles southwest of Cape Flattery.

Early Albacore landings largely went into Grays Harbor, as the fish seemed to be striking the coast of Washington from offshore.

The very first landings of the season were sold on "open tickets", with an advance of $480 to $500 upon delivery. Within a few days, however, prices skyrocketed, reaching $645 before it settled back a bit to about $630 by the end of the third week in July, barely a fortnight after the initial delivery.

Early Albacore Small

Early tuna landings at Pacific Northwest ports were marked by the small average size of the fish. During the first few weeks of the season this condition proved a decided problem to packers, as they found the recovery from small fish substantially lower than normal per ton. Gradually the size of the fish increased and the average for the season was considered quite good, although the population was marked by distinct size groupings, presumably representing year classes.

One Columbia River packer reported that the fish put through his cannery in July had yielded 8 cases per ton less than the average for the entire 1947 season; and that at the end of the first week in August the yield was still 5 cases per ton under the 1947 mean.

It was by early August that the bait boats began to experience disappointment in their catches. Prices in August shot up for a time above $650.

Canadians Seek Albacore, And Really Find Them

In advance of the 1948 tuna season the Canadian government prepared to render all assistance possible to the British Columbia fleet in increasing its catch of Albacore—and the project paid-off abundantly.

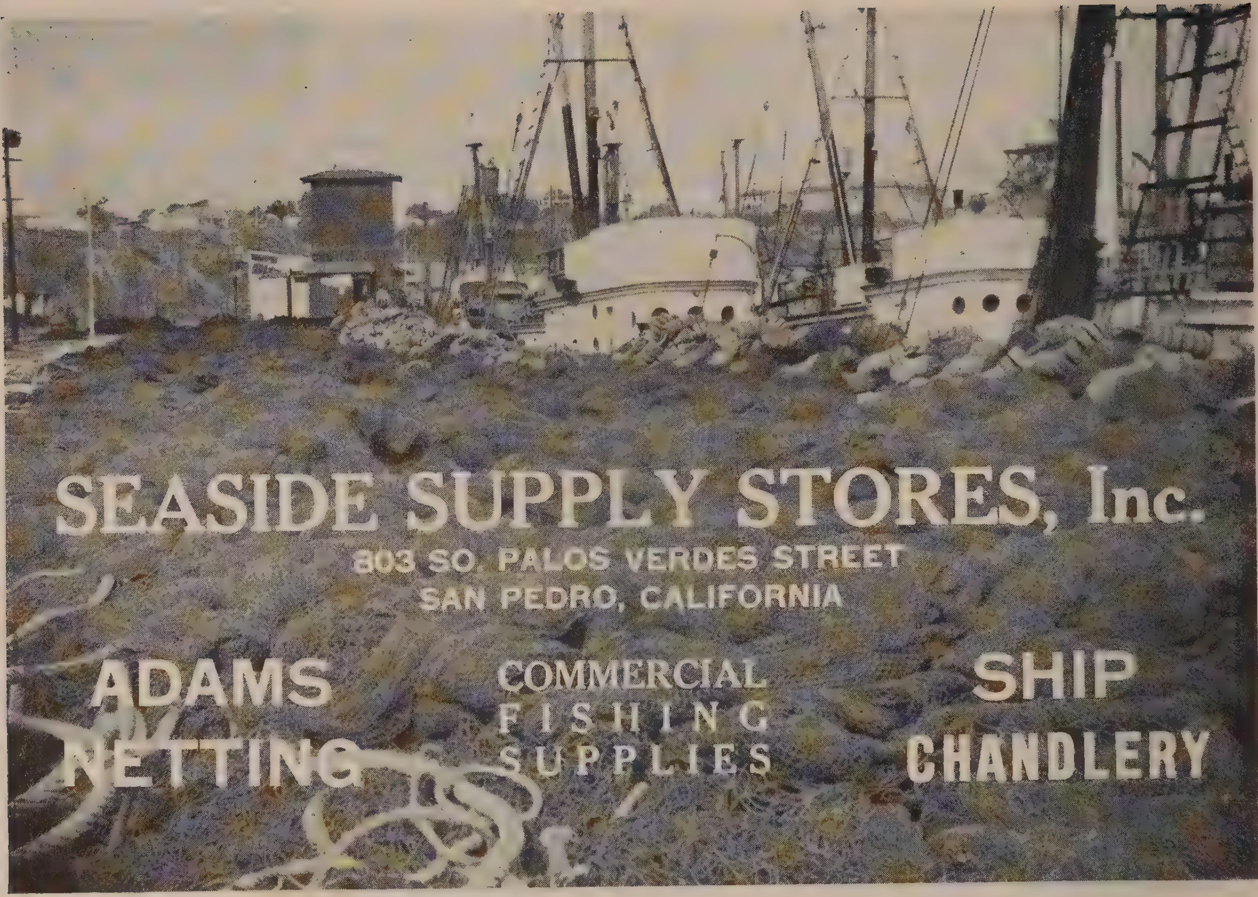
The patrol boat *Laurier* was equipped for experimental fishing with long lines and gillnets. (Results with this gear proved virtually nil.)

She was among the first vessels to sight Albacore, and in August informed the Canadian fleet that she had found Albacore in substantial quantity northwest of Cape St. James, about 12 miles off the west coast of the Queen Charlotte Islands.

The Canadian fleet quickly centered its activities in that region and found excellent fishing. The first delivery of tuna ever to be made at Prince Rupert was sold there by the *North Pacific*, and this was followed by many vessels at points all along the British Columbia Coast.

1948 — WASHINGTON ALBACORE LANDINGS — 1948

Port	July		August		September		October		Season	
	Trips	Pounds	Trips	Pounds	Trips	Pounds	Trips	Pounds	Trips	Pounds
Bellingham	2	7,219	3	2,621	....	....	....	....	**5**	**9,840**
Port Angeles	5	7,421	6	12,922	3	6,298	3	6,298	**14**	**26,641**
Seattle	5	42,821	49	338,568	21	158,321	6	12,828	**81**	**552,538**
Neah Bay	3	4,851	45	36,561	11	5,281	1	2,110	**60**	**48,803**
La Push	8	9,228	29	29,321	2	4,280	....	....	**39**	**42,829**
Grays Harbor	268	1,569,321	728	3,288,965	51	112,528	9	36,521	**1,056**	**5,007,335**
Willapa Harbor	32	58,561	48	123,892	10	61,822	2	6,890	**92**	**251,165**
Ilwaco	49	162,821	99	348,561	....	....	....	....	**148**	**511,382**
Total	**372**	**1,862,243**	**1,007**	**4,181,411**	**98**	**348,530**	**18**	**58,349**	**1,495**	**6,450,533**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DEARBORN 7592

NORTH COAST ALBACORE PACKS BY PORTS, 1939 to 1948

Oregon Coast Cases	Columbia River Cases	Total Cases	Year	Pacific Northwest Regional Total Cases	Year	Total Cases	Willapa Harbor Cases	Grays Harbor Cases	Puget Sound Cases
44,822	286,847	331,669	1948	417,354	1948	85,685	8,225	76,627	833
(a) 47,123	281,062	(a) 328,185	1947	(a) 385,570	1947	57,385	8,434	48,508	443
23,243	121,386	144,629	1946	192,237	1946	47,608	....	47,608	....
55,747	348,958	404,705	1945	466,859	1945	62,154	....	62,154	....
40,000	(b) 750,356	790,356	1944	846,596	1944	56,240	....	56,240	....
8,000	282,536	290,536	1943	301,414	1943	10,878	....	10,878	....
....	307,810	307,810	1942	314,353	1942	6,543	....	6,543	....
....	194,833	194,833	1941	197,629	1941	2,796	....	1,176	1,620
....	197,535	197,535	1940	207,723	1940	10,188	....	4,908	5,280
2,118	151,584	153,702	1939	(c) 173,359	1939	15,857	....	3,100	12,757

(a) Includes 4,216 cases canned at Eureka, Calif. (b) Division of 1944 pack between Columbia River and Oregon Coast is only approximate. (c) Includes 3,800 cases canned in British Columbia.

NOTE:—Data for the several calendar years cover packs made from fish caught during those years, even though in some cases canning of frozen stocks may not have been completed until in the next calendar year.

Fish Taken in Water Usually Counted Too Cold

The Canadian vessels found tuna in water as low as 57 degrees, normally considered too cold for the species. It is significant that the color of the water appeared to have as much to do with the presence, and availability, of the fish as did the temperature. Excellent fishing was found along the contact between the blue water off-shore and the green water lying closer to the coast.

Most of the early season Canadian Albacore catches were sold at around $600, but by mid-September the price had declined to around $550.

With a catch of approximately 2,000,000 lbs. for the 1948 season, the Canadian tuna fleet established a new record far above its take of any previous year, and comparing with 796,000 lbs. landed for the 1947 season.

Alaska Tuna Landings Inaugurate New Trade

With the Canadian tuna fishermen getting Albacore off the Queen Charlotte Islands, it was to be expected that Alaska trollers would find the fish within their reach, and this they did, making worth-while catches for a time off Graham Island and in Dixon Entrance. All of the Alaska Albacore deliveries went to Ketchikan, where they were frozen for shipment south, the Point Adams Packing Co. being the most aggressive buyer. Alaska buying price ranged from $520 to $550 per ton.

Best fishing for the Alaska fleet was in the first week of September, but it flattened quickly, and after Sept. 8 only a handful of fish was landed.

1948 — Pacific Northwest Lightmeat Tuna Pack

Company	Cannery Location	Fancy, Cases 48 ½-Lb. Flats	Grated Cases 48 ½-Lb. Flats	Total Cases
Columbia River Packers Assn.	Astoria, Ore.	77,475	31,409	**108,884**
Van Camp Sea Food Co.	Astoria, Ore.	8,326	24,984	**33,310**
Whiz Fish Products Co.	Hoquiam, Wash.	1,359	425	**1,784**
	Totals	**87,160**	**56,818**	**143,978**
1947 Pacific Lightmeat Tuna Production		60,784	33,185	**93,969**

Alaska's Albacore landings approximated 400,000 lbs.

British Columbia Albacore canning developed in 1948 to a degree not previously recorded, with two companies putting a considerable percentage of the province's tuna receipts into cans.

1948 — Imports of Canned Bonito and Yellowtail

Countries	May, Pounds	June, Pounds	July, Pounds	August, Pounds	September, Pounds	October, Pounds	10 Months Total, Pounds
China	32	....	....	....	....	....	**32**
Peru	....	36,864	36,864	19,782	28	....	**95,158**
Turkey	....	2,653	2,653	2,718	675	....	**6,046**
Total	**32**	**38,514**	**39,517**	**22,500**	**703**	....	**101,266**

NOTE:—No imports in January, February, March and April.

British Columbia Albacore Largely Canned in Province

Albacore landings in British Columbia during 1948 are estimated at approximately 1,600,000 lbs, or twice as much as in the previous year. More than 1,250,000 lbs. of the total were reported taken in the northern area, in the vicinity of the Queen Charlotte Islands.

Approximately 30,000 cases of Albacore were canned in British Columbia plants. Only a comparatively small quantity of the fish was shipped frozen to the United States.

The Albacore pack showed a sharp increase over previous years, as only 560 cases were packed in British Columbia in 1947, the bulk of the catch being shipped frozen to the United States because of the higher prices obtainable there.

The Albacore catch of The Canadian Fishing Co. and Nelson Bros. Fisheries boats as well as of B.C. Packers was all packed at the last named company's Imperial cannery at Steveston.

The other important Albacore packers in British Columbia last season were Tulloch Fisheries and the Fishermen's Co-operative Federation.

GRIFFITH-DURNEY COMPANY

Boatman's
BRAND
NET WEIGHT 15 OZ.
425 GRAMS
CALIFORNIA NATURAL
SARDINES
PACKED IN WATER
SALT ADDED

DISTRIBUTORS AND SALES AGENTS SINCE 1897

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CANNED SALMON, SARDINES, TUNA, CRAB
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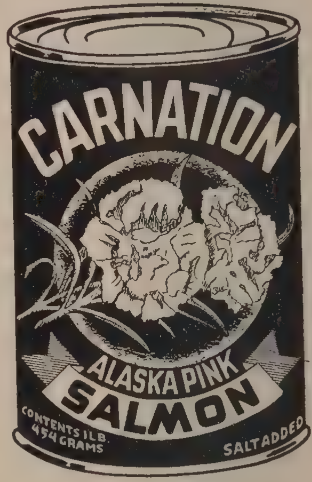
Boatman's
BRAND
Fancy SOLID PACK WHITE MEAT
TUNA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ALASKA PINK
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CONTENTS 1 LB. 454 GRAMS
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Terminal Island

California Mackerel canning narrowly kept in the million-case class in 1948, with 1,017,000 cases produced.

This was a decline of more than 500,000 cases from the pack of the previous year.

Although mackerel canning in California kept its production above the 1,000,000-case mark in 1948, the margin was narrow and attained only because Monterey continued its growth as a point for mackerel packing.

Decrease in the pack came as result of a number of factors:

1. The price-of-fish argument between packers and seiners at a time when fishing was heavy.
2. Action of the Food and Drug Administration in holding early in the year that California Jack mackerel would have to be labelled with the consumer-chilling name of "horse" mackerel; followed by later reversal of its position and approval of the "Jack Mackerel" labelling.
3. Weakening of the market for canned fish of this type toward the end of the year.

In the latter connection it is interesting to note that mackerel landings in southern California for the last month of 1947 were a record-breaking 21,926 tons. In December, 1948, production was barely one-third as heavy.

Practically all of the mackerel production was packed in No. 1 tall cans, although as usual there were some minor quantities put in tins of other sizes, and some specialty packs in fillet cans.

California Canned Mackerel--1926-1948

Year	San Pedro District: *1-lb. Cans (full cases)	San Pedro District: †Other Size Cans (full cases)	San Pedro District: Total (full cases)	San Diego District: 1-lb. Cans (full cases)	San Diego District: Other Size Cans (full cases)	San Diego District: Total (full cases)	Monterey: Total (full cases) ‡	Grand Total (Full Cases)
1926	......	268	268	4	5	9	......	**277**
1927	10,725	......	10,725	......	118	118	......	**10,843**
1928	357,136	2,337	359,473	25,110	239	25,349	1,030	**385,852**
1929	477,570	27,006	504,576	86,246	3,720	89,966	1,476	**595,572**
1930	122,870	......	122,870	4,250	39	4,289	117	**127,276**
1931	100,912	......	100,912	305	......	305	......	**101,217**
1932	84,385	4,058	88,443	184	......	184	......	**88,627**
1933	578,902	38,163	617,065	100,883	4,729	105,612	7,722	**730,309**
1934	942,507	126,538	1,069,045	115,654	12,303	127,957	61,083	**1,257,085**
1935	1,409,922	195,771	1,605,693	105,081	4,436	109,517	46,026	**1,761,236**
1936	990,360	60,250	1,050,610	113,075	9,533	122,608	55,139	**1,228,357**
1937	727,656	14,309	741,965	30,482	3,011	33,493	13,856	**789,314**
1938	828,284	71.741	900.025	44,856	3,125	47,981	5.643	**958.649**
1939	869,474	20,323	889,797	73,608	1,247	74,855	2,604	**967,256**
1940	1,311,778	47,304	1,359,082	39,467	768	40,235	142	**1,399,459**
1941	811.467	6,096	817,563	19,484	......	19,484	6.700	**843.747**
1942	579,053	9,479	588,532	17,456	3,663	21,119	4,539	**614,190**
1943	827,040	......	827,040	4,255	......	4,255	7,997	**839,312**
1944	970,772	13.324	984,096	266	......	266	2,060	**986,422**
1945	584,318	1,658	585,976	......	......	......	3,641	**589,617**
1946	602.458	33,772	636,230	......	......	......	80.438	**716.668**
1947	1,298,820	58,589	1,357,409	......	......	......	164,790	**1,522,199**
1948	785,816	81,783	867,599	......	......	......	149,515	**1,017,114**

* Practically all in 1-lb. Talls. † Largely ½-lb. Flats. ‡ Includes San Francisco.

1948--California Mackerel Pack--1948

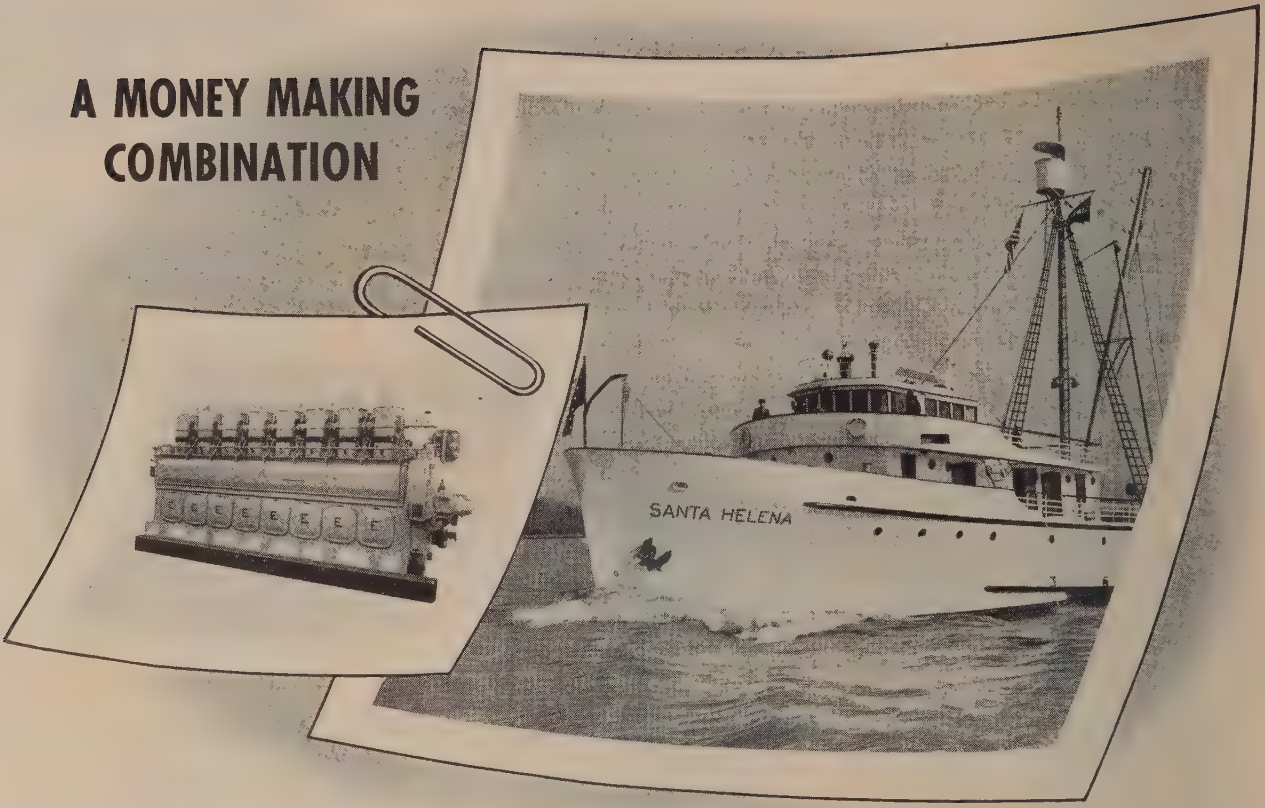
San Pedro: Pounds Received	San Pedro: Cases Canned	Months	Monterey District: Pounds Received	Monterey District: Cases Canned	Total California: Pounds Received	Total California: Cases Canned
13,158,654	110,636	January	2,842,848	28,959	**16,001,502**	**139,595**
(a) 9,924,983	(b) 74,872	February	2,151,458	22,145	**12,076,441**	**97,017**
(c) 4,309,365	(d) 20,368	March	153,000	1,039	**4,462,365**	**21,407**
275,700	1,663	April	40,090	474	**315,790**	**2,137**
(e) 294,863	(f) 3,845	May	255,657	2,844	**550,520**	**6,689**
139,834	1,804	June	......	......	**139,834**	**1,804**
3,715,221	70,113	July	......	65	**3,715,221**	**70,178**
11,187,189	82,264	August	......	......	**11,187,189**	**82,264**
20,814,678	173,617	September	6,601,576	72,749	**27,416,254**	**246,366**
11,518,201	120,618	October	1,540,783	20,090	**13,058,984**	**140,708**
4,611,655	59,449	November	61,960	1,150	**4,673,615**	**60,599**
15,038,000	148,350	December	......	......	**15,038,000**	**148,350**
94,988,343	**867,599**	**Totals**	**13,647,372**	**149,515**	**108,635,715**	**1,017,114**

(a) Includes 27,070 pounds landed in San Diego. (b) Includes 205 cases canned in San Diego. (c) Includes 4,718 pounds landed in San Diego. (d) Includes 32 cases canned in San Diego. (e) Includes 3,639 pounds landed in San Diego. (f) Includes 88 cases canned in San Diego.

As high as $75 per ton was offered for Pacific mackerel when the fall season opened with Jack worth $67.50. This scale, however, did not last long. Fishing was held up while canners and fishermen tried to get together. When prices of $60 and $50 for Pacific and Jack, respectively, were agreed upon the boats were put on limits, packers buying until the end of the year on a hand-to-mouth basis. There was some price-cutting below this figure, down to as low as $40 for Jack.

With the seine fleets tied up a good part of the last three months of 1948, the small scoopers contributed much of the tonnage and this was largely Pacific, as compared to larger catches of Jack early in the year.

A MONEY MAKING COMBINATION



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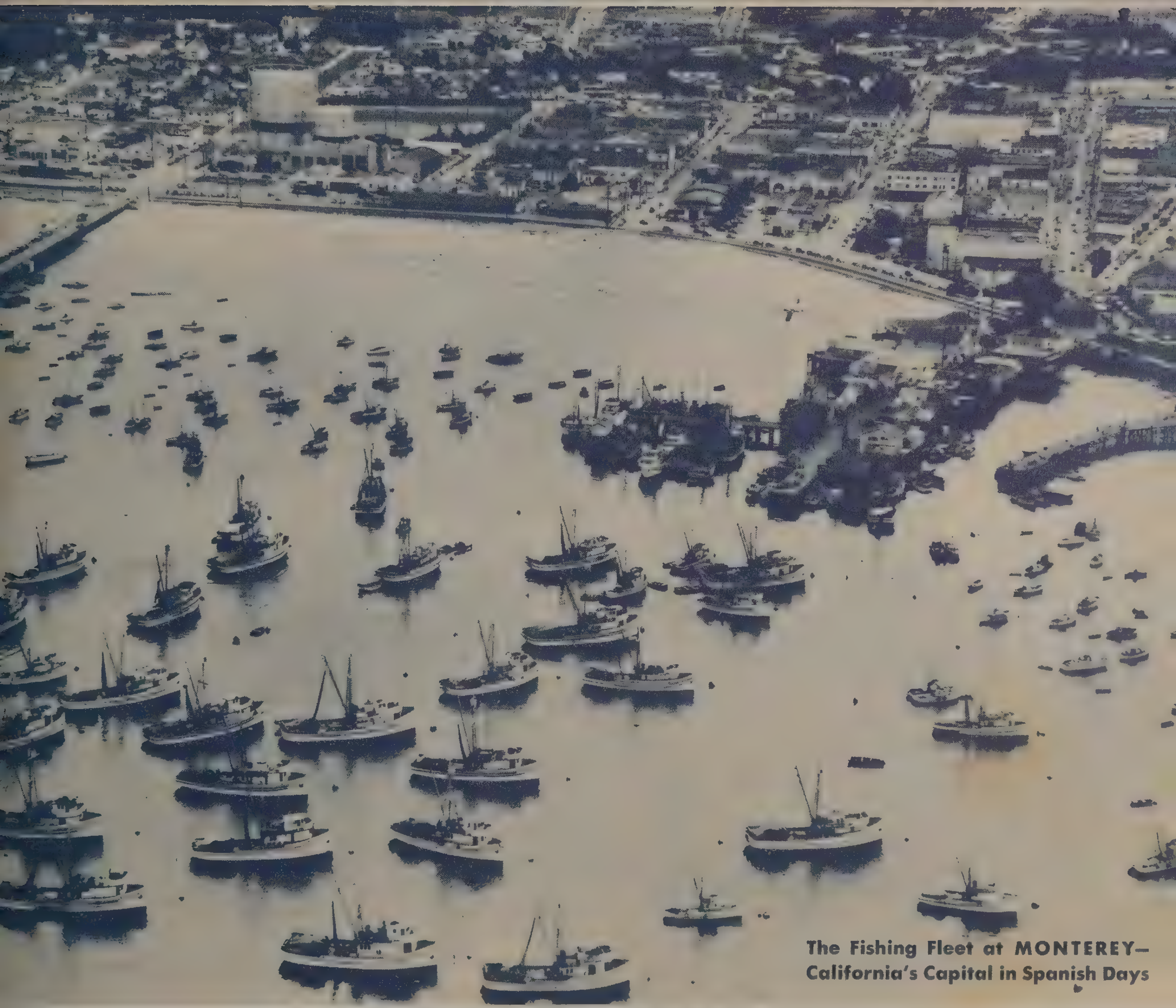


The Fishing Fleet at MONTEREY—
California's Capital in Spanish Days

Photos of the Year . . .

These picture pages seek to show the strength, and the living, growing, vital character of the Pacific fisheries—a varied industry developing a resource whose riches have never yet been measured—a source of wealth which, wisely used, will produce food for mankind forever. These are pictures of men and fish, of tropic oceans and sub-Arctic seas, of boats and plants, of nets and rope—of fish, of fishermen, and the tools they use—for these are the fabric of the Pacific fisheries.

PACIFIC FISHERMAN YEARBOOK
1949

Pacific Fishermen . . .

Two things are necessary in every fishery—fish and fishermen. Pacific fishermen are a high type, and their earnings and production are high. They are business men, who own their own boats—which sometimes cost as much as the canneries to which they sell their fish.

Some Fish Are Small—
Dip-Netting for Smelt

Bristol Bay Gillnetter
Freeing His Catch

Crabs by the Million
Delight of the Epicure

Some Fish Are Big—
Bait Fishing for Tuna

A Salmon Troller
Dressing a King

And the Fish They Catch

The Pacific fisheries are characterized by the remarkable extent to which the value of the catch is enhanced by manufacture. Most of the fish are canned, or otherwise processed, thus supporting a great industrial plant and providing work and livelihood for thousands of shore workers.

PACIFIC FISHERMAN YEARBOOK 1949

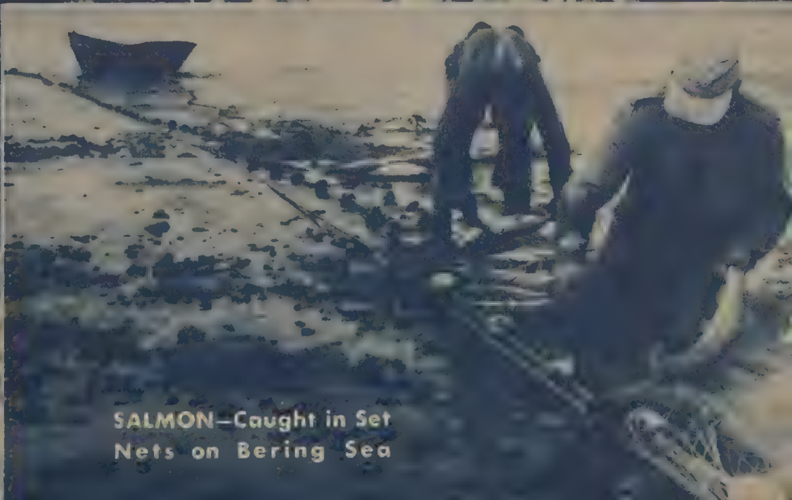
TUNA—From Tropic Sea to the Deck of a Clipper

SALMON—Swept Fresh From Trap to Tender

WHALE—On the Deck at a California Station

SOLE and ROCKFISH the Cod-End of a Tra

OGFISH—Rich Source Vitamin-Bearing Oil



SALMON—Caught in Set Nets on Bering Sea

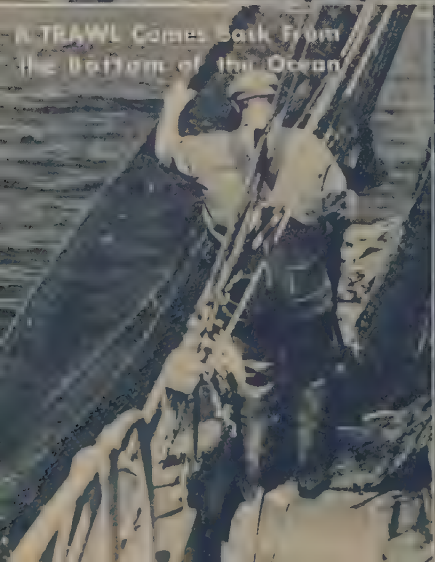
The Fisherman's Tools

Although the Pacific fishing fleet is modern in every respect, and employs radar and loran, electronics and echo-sounders, to locate the fish and navigate the vessels, the fact remains that most fish are caught by nets which do not differ greatly from those St. Peter fished with on Galilee.

ROPE—And It Must Be New and Strong

BOATS—For Tuna Even the Little Ones Are Big

A BRAIL Is Built by Hand for Tuna Seining



A TRAWL Comes Back From the Bottom of the Ocean

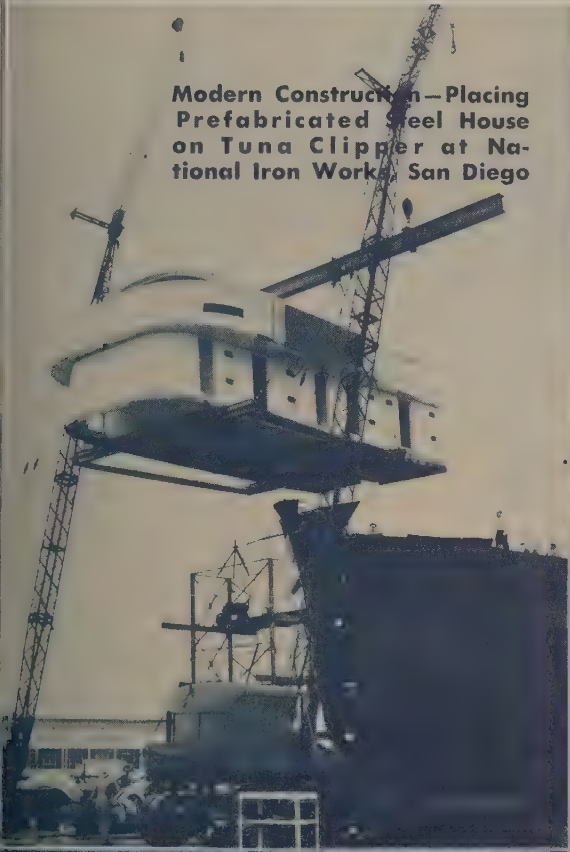
SHARK NET, With Its Glass Floats for Great Depths

GEAR—Booms and Tackle Ropes and Nets and Corks

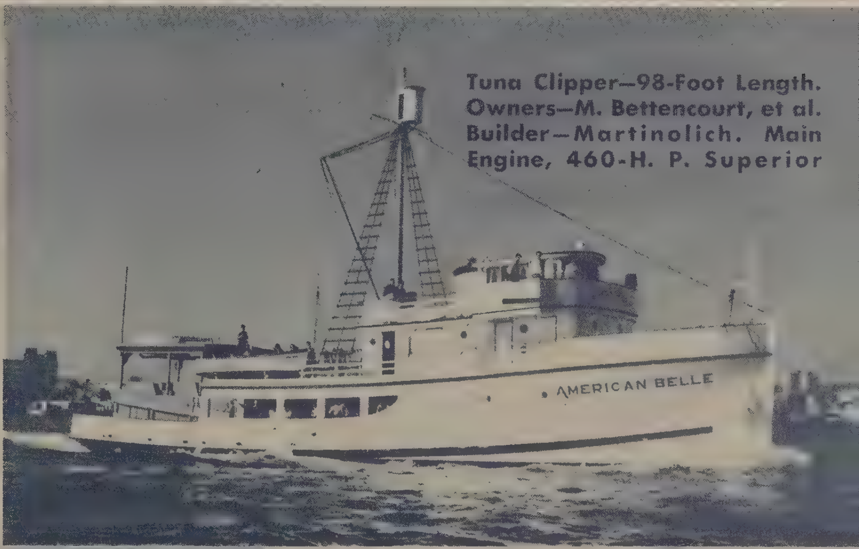
Are Boats and Nets

These newest additions to the Pacific fishing fleet are only representative samples of the thousands of vessels, modern, sleek and sound, which work their gear from the tuna banks of equatorial islands and the Gulf of Panama to Bering Sea and the Gulf of Alaska. With diesel and dynamo, radar and radio, these are today's fishermen.

PACIFIC FISHERMAN YEARBOOK 1949



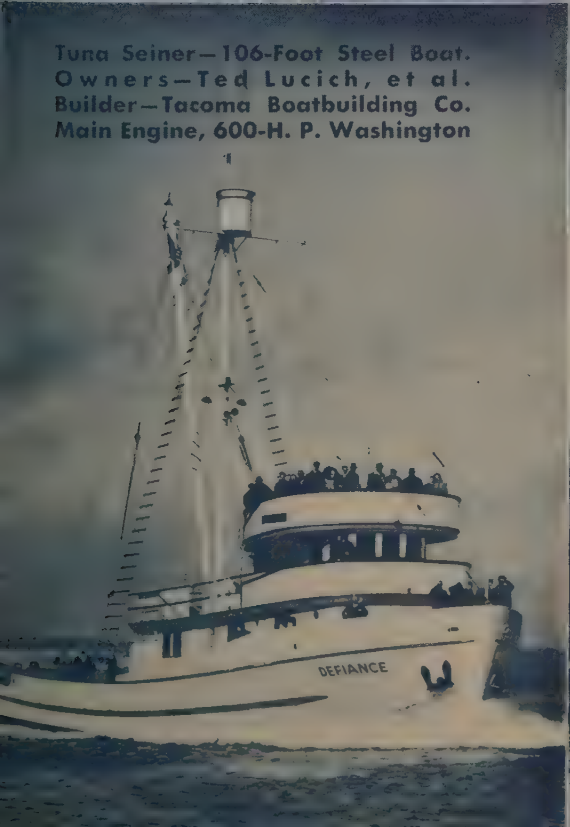
Modern Construction—Placing Prefabricated Steel House on Tuna Clipper at National Iron Works, San Diego



Tuna Clipper—98-Foot Length. Owners—M. Bettencourt, et al. Builder—Martinolich. Main Engine, 460-H. P. Superior

Combination Boat, "Two Brothers." Owner—Francisco Grillo and Giovanni Pennisi. Caterpillar Powered.

Tuna Clipper—103-Foot Length Owners—Joseph [illegible], et al. Builder—Peterson B. B. Co. Engines, 465-H. P. Superior Three Buda Auxiliary Diesels



Tuna Seiner—106-Foot Steel Boat. Owners—Ted Lucich, et al. Builder—Tacoma Boatbuilding Co. Main Engine, 600-H. P. Washington

Salmon Seiner—57-Foot Length. Owners—Nick Vojkovich. Builder—H. Hansen Boat Co. Engine, 115-Horsepower "Caterpillar"

SIERRA MADRE

How Fish are Caught

There are five fundamental methods (1) Encirclement, as in seining for salmon, tuna, sardines, herring and mackerel; (2) Entrapment, as in salmon traps, crab pots, and in trawling; (3) Entanglement, as in salmon gill-nets; (4) Hook and line, employed by various methods for halibut, salmon, tuna and many minor fisheries; (5) Harpooning, for whales and swordfish.

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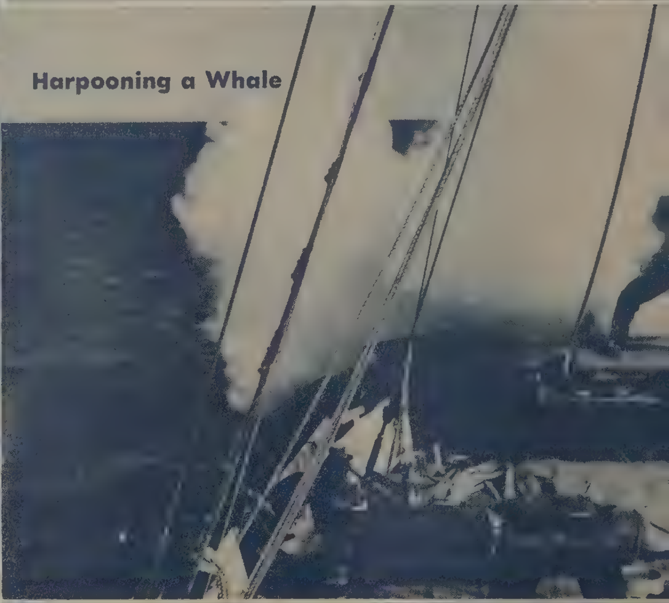
1949

Alaska Salmon Seining

Yellowfin Tuna Seining

Brailing a Salmon Trap



Harpooning a Whale

Salmon Beach Seining

Where Fish are Packed

Pacific fish packing plants are modern food-processing establishments, equipped with every machine and instrument for prompt protection of quality.

A new development in Pacific fish packing is the operation of freezerships, such as that shown here, on the tropical tuna banks, where they receive and transport the catch of fishing vessels.

PACIFIC FISHERMAN YEARBOOK
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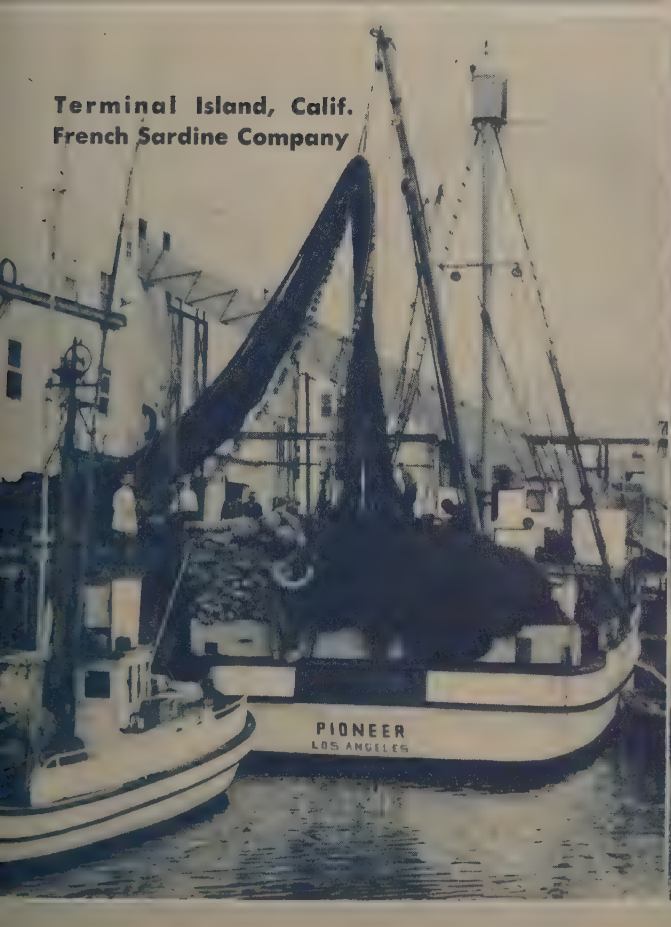
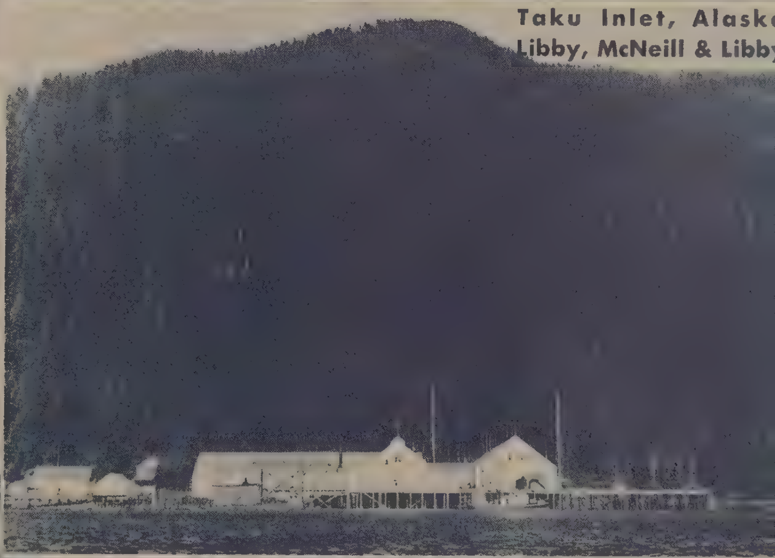
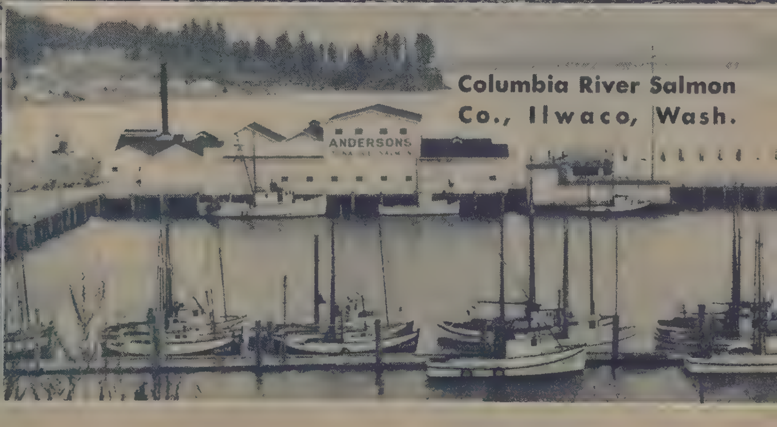
Tropical Tuna Freezership
Columbia River Packers Assn.



Terminal Island, Calif.
French Sardine Company



Taku Inlet, Alask
Libby, McNeill & Libb



Columbia River Salmon Co., Ilwaco, Wash.

Puget Sound—New England Fish Co., Everett

Radar Scans The Future

No device for navigation or detection is too modern for employment in the Pacific fisheries, whose vessels are manned by fishermen of a high order of intelligence, and with the means and vision to demand the best and most efficient equipment in their vessels.

PACIFIC FISHERMAN YEARBOOK
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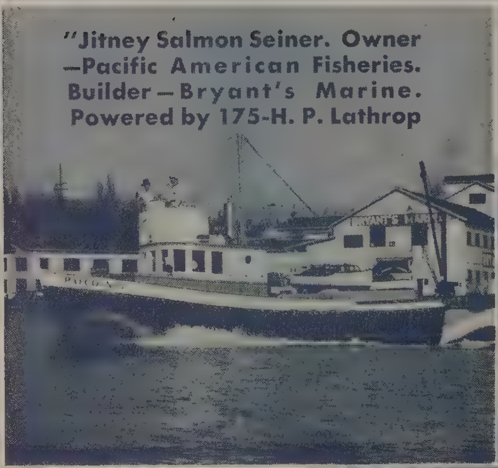
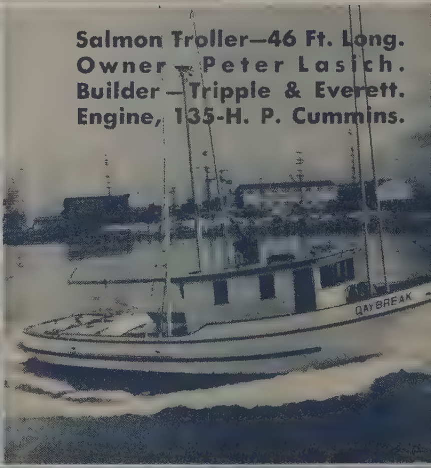
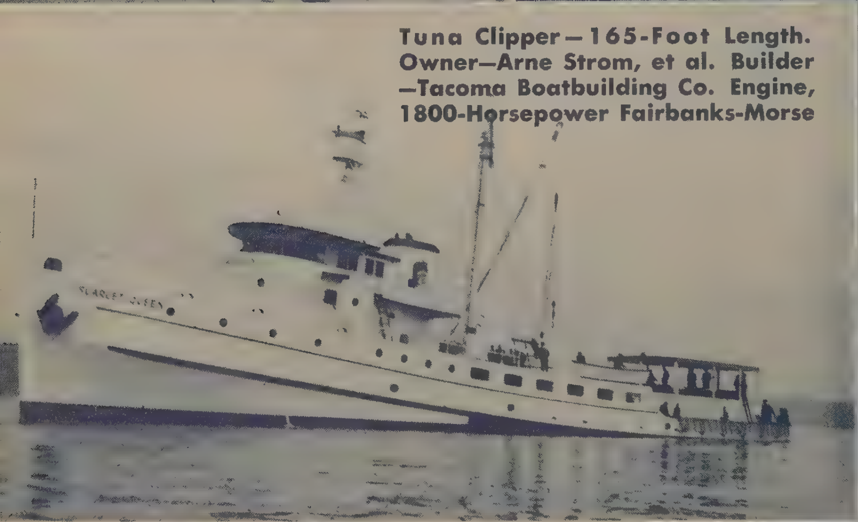
Radar on Foretop of a Tuna Clipper



"Jitney Salmon Seiner. Owner—Pacific American Fisheries. Builder—Bryant's Marine. Powered by 175-H. P. Lathrop

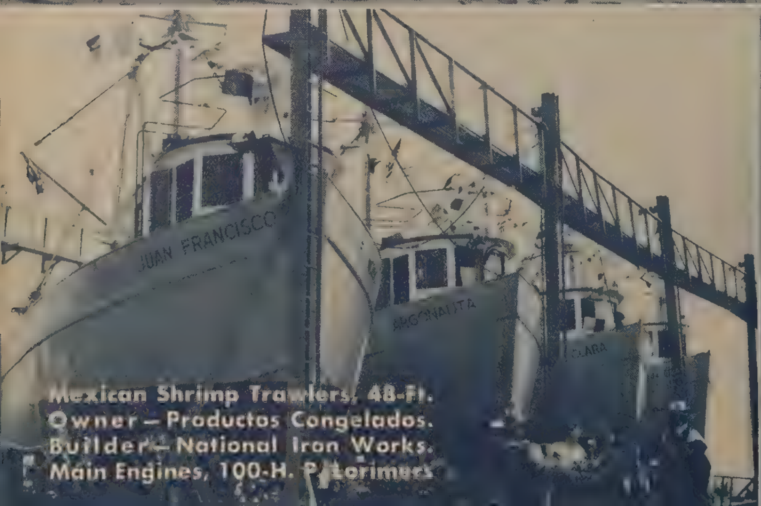


Salmon Troller—46 Ft. Long. Owner—Peter Lasich. Builder—Tripple & Everett. Engine, 135-H. P. Cummins.

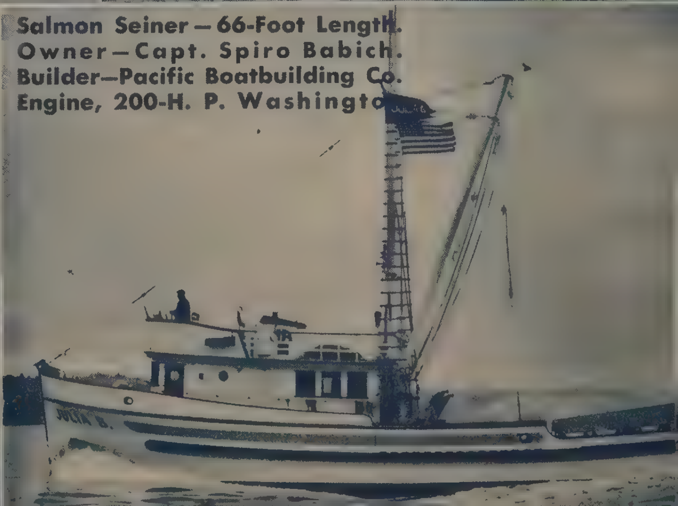


Tuna Clipper—165-Foot Length. Owner—Arne Strom, et al. Builder—Tacoma Boatbuilding Co. Engine, 1800-Horsepower Fairbanks-Morse

Salmon Troller—48-Foot Length. Owner—Conrad Peterson. Builder—Wrang Shipyards. Engine, 165.-H.P. General Motors



Mexican Shrimp Trawlers, 48-Ft. Owner—Productos Congelados. Builder—National Iron Works. Main Engines, 100-H. P. Lorimers



Salmon Seiner—66-Foot Length. Owner—Capt. Spiro Babich. Builder—Pacific Boatbuilding Co. Engine, 200-H. P. Washingto

As the Lookout Scans the Sea

Even radar and loran and echo-sounders cannot supplant the eyes and ears and brain and hands of the fisherman—they can only supplement them.

But the newest and most modern of every model and machine are tried and applied to the Pacific fisheries by forward-looking fishermen, such as this lookout, aloft in the crowsnest of a Pacific whaling craft.

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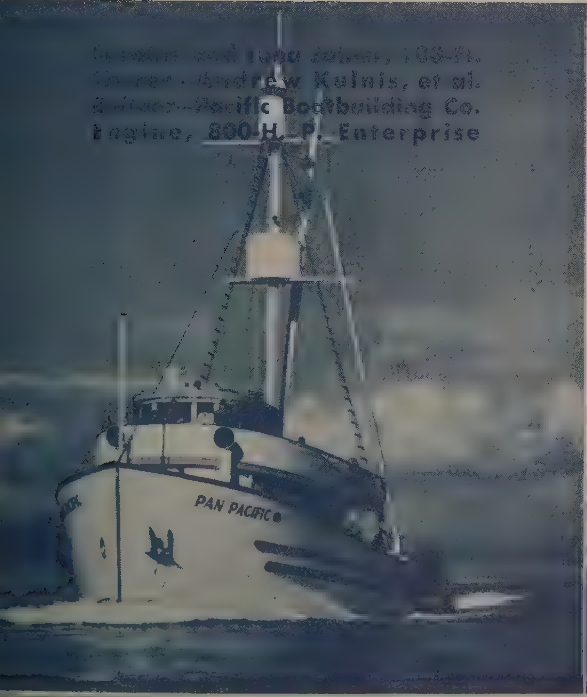
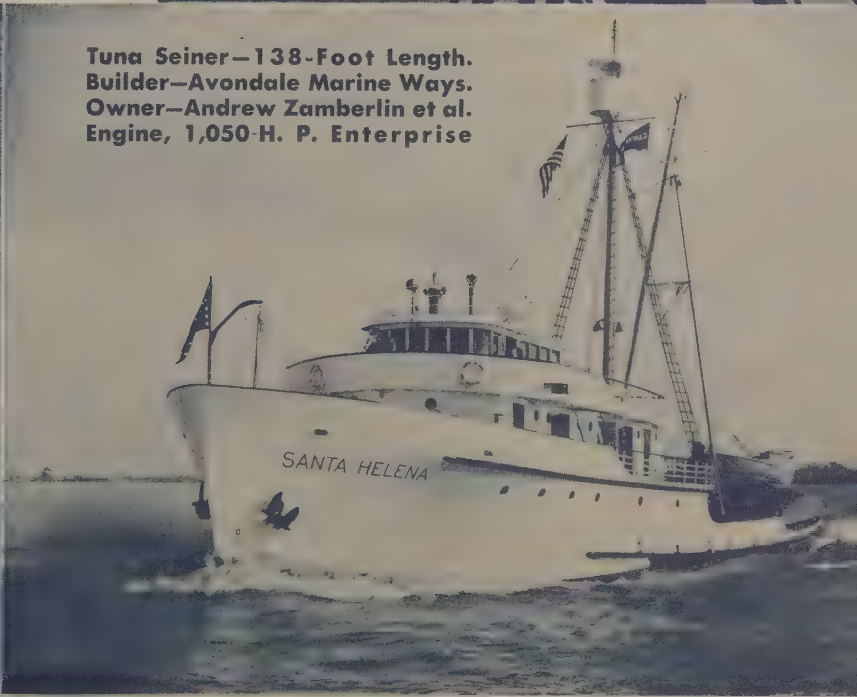
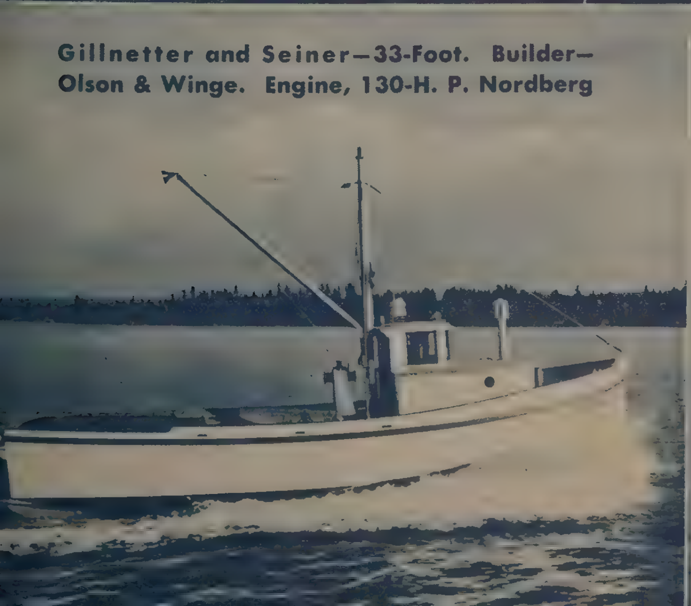


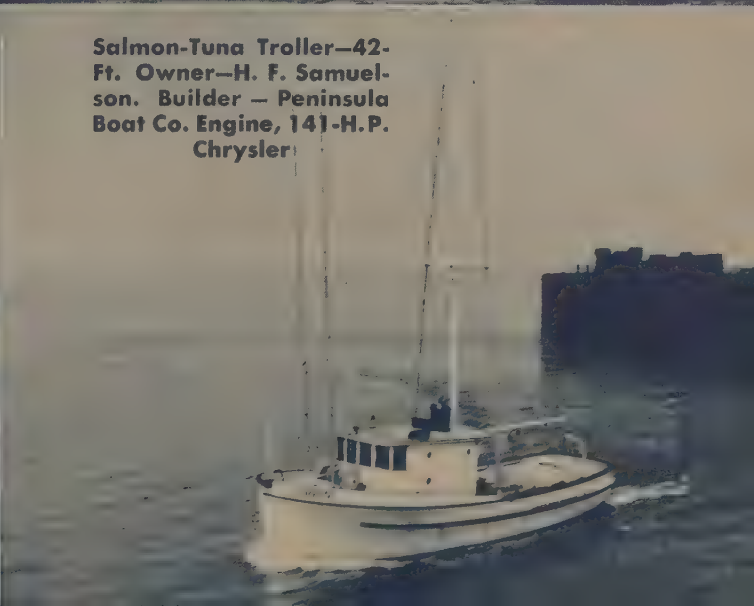
Sardine and Tuna Seiner, 103-Ft. Owner—Andrew Kulnis, et al. Builder—Pacific Boatbuilding Co. Engine, 800-H. P. Enterprise



Tuna Seiner—138-Foot Length. Builder—Avondale Marine Ways. Owner—Andrew Zamberlin et al. Engine, 1,050-H. P. Enterprise



Gillnetter and Seiner—33-Foot. Builder—Olson & Winge. Engine, 130-H. P. Nordberg



Salmon-Tuna Troller—42-Ft. Owner—H. F. Samuelson. Builder — Peninsula Boat Co. Engine, 141-H.P. Chrysler

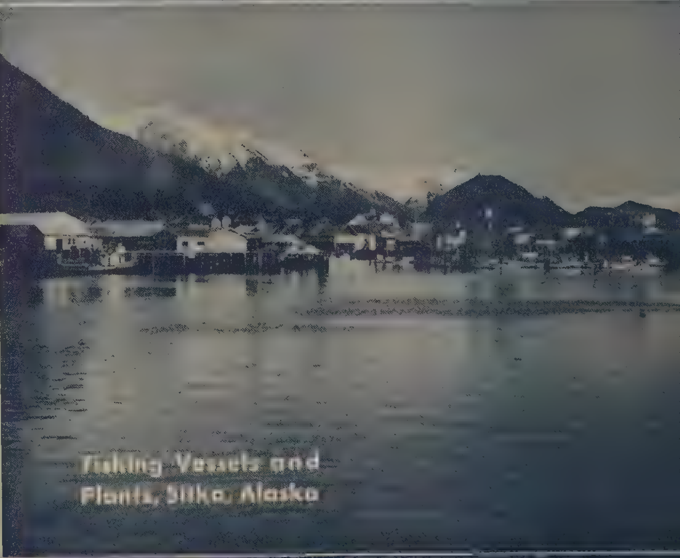
Ports are Part of Fishing

Strategic location has most to do with establishing the importance of fishing ports, but adequate facilities for the safety and servicing of fishing craft while in port attract fleets and build business—based as well on the goods they buy as on the fish they sell.

Noyo Harbor, Ft. Bragg, Calif.

Bellingham, Wash., Buil
Fish Plants and Moorin

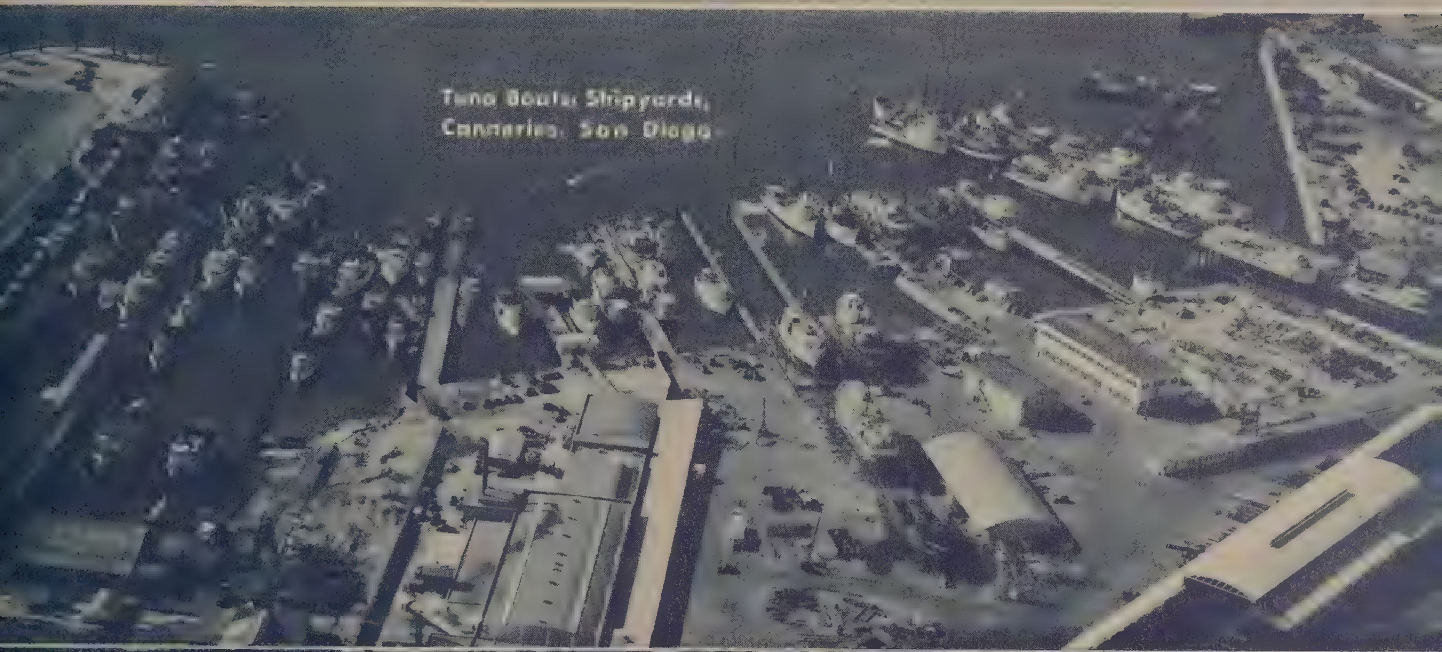
Corner of Fish Harbor, Terminal Island, Calif.


Fishing Vessels and Plants, Sitka, Alaska

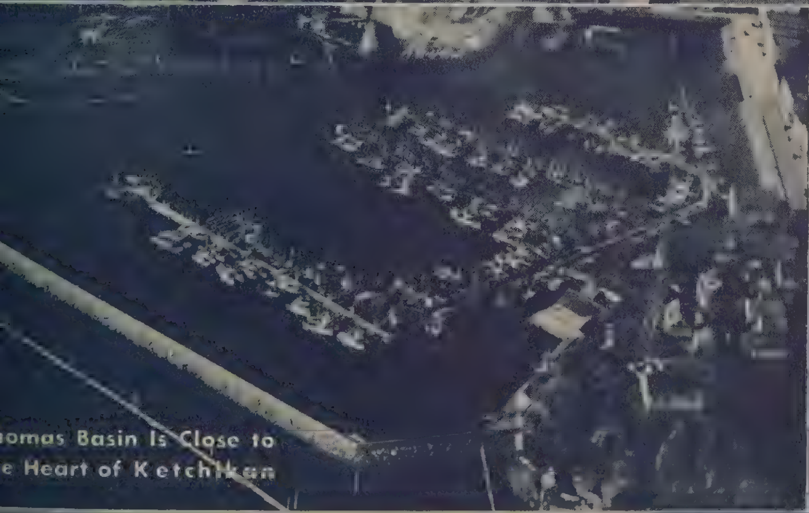
Fishing Boat Harbo
at Juneau, Alask

Havens for the Hardy

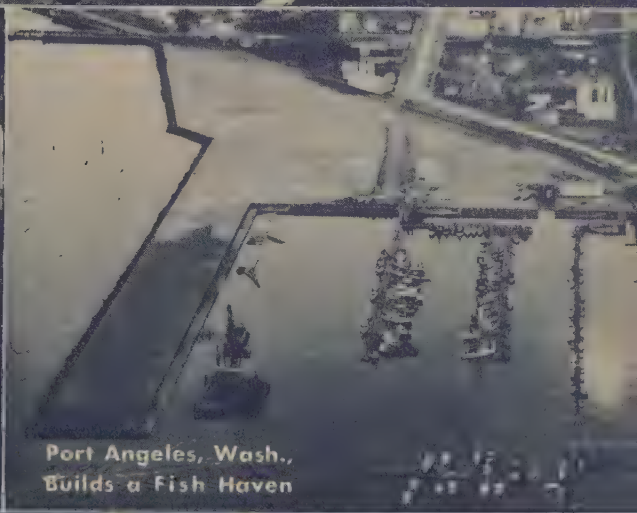
From Alaska to San Diego, seacoast cities have found it's profitable to provide mooring facitlities and port services for the fishing fleet, as well as for larger craft. Where this has been done, fishermen have been attracted to sell their fish, buy their supplies, and in many cases to establish homes for their families and winter quarters for their craft.



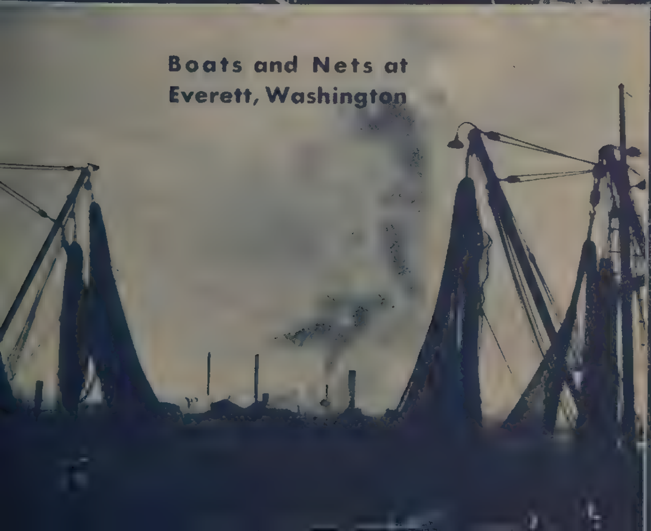
Tuna Boats, Shipyards, Canneries, San Diego



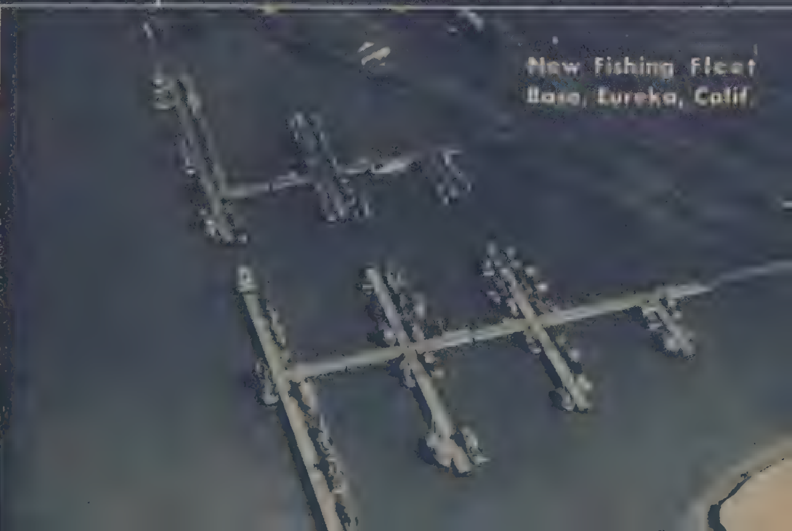
omas Basin Is Close to
e Heart of Ketchikan



Port Angeles, Wash., Builds a Fish Haven



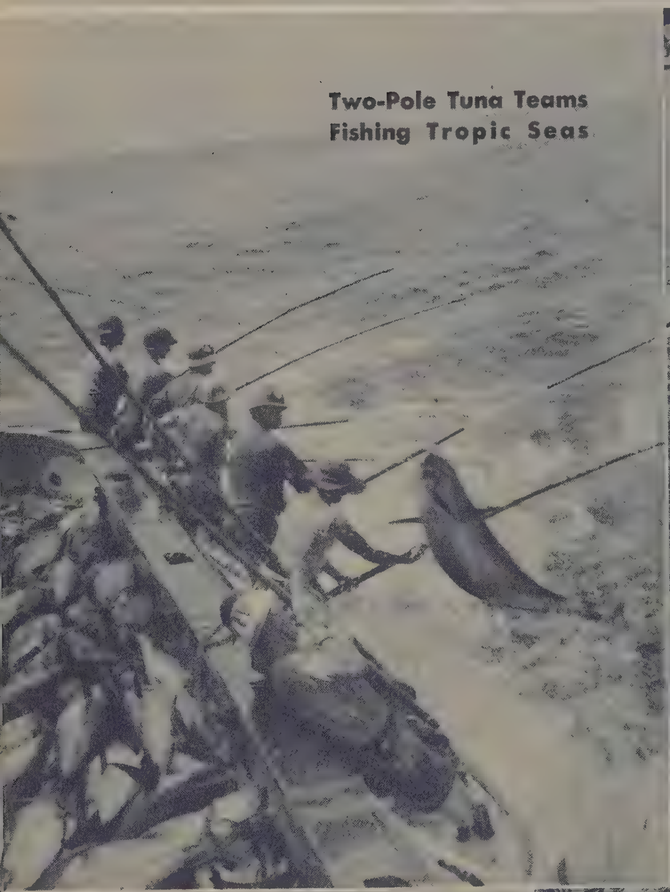
Boats and Nets at Everett, Washington



New Fishing Fleet Base, Eureka, Calif.

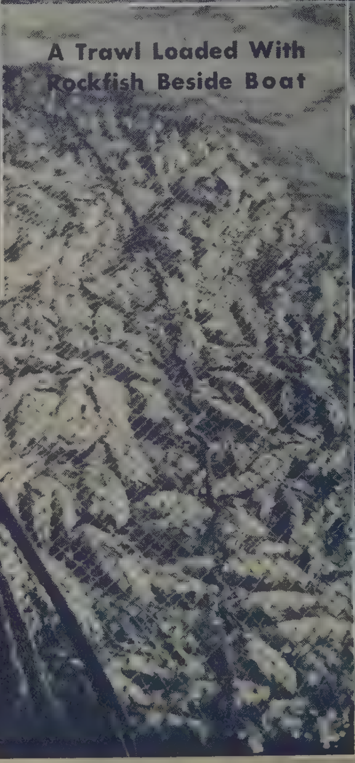
The Men and Their Fish . . .

Character of the Pacific fisheries permits year-round operation of many vessels, and craft which fish herring in Alaska in the summer may be working tuna in the tropics by Thanksgiving; and the California winter sharkers may be dragging for dogfish in Hecate Strait by summer. Fine vessels, a high type of fishermen, flush markets and year-round fishing contribute to a prosperous industry.



Two-Pole Tuna Teams Fishing Tropic Seas

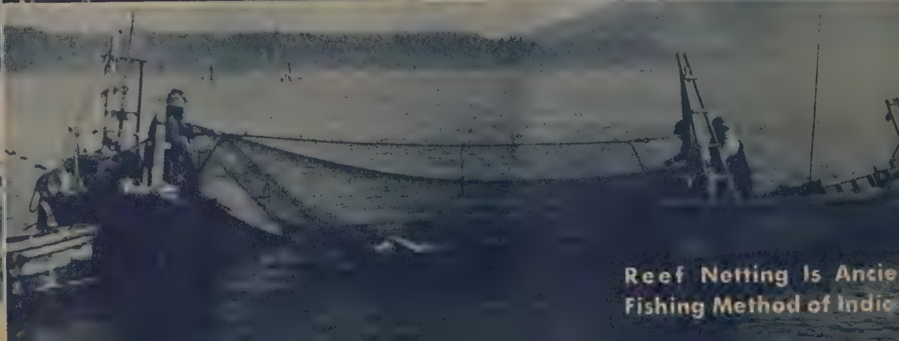
Selling Crabs Can Be a Serious Business



A Trawl Loaded With Rockfish Beside Boat

Salmon Coming Out of a Tender's Hold

Trawl Fishermen With Billions of Vitamin Units



Reef Netting Is Ancie Fishing Method of Indic

And Where They Sell Them

Pacific fish packing plants, whether situated on remote tundra shores or in great cities, are models of modern sanitary practice and efficient food packing. The recent rise of refrigerated freezerships is a new aspect of the changing picture. They receive fish from the fishing craft on remote grounds, freeze them immediately, and carry them to market.

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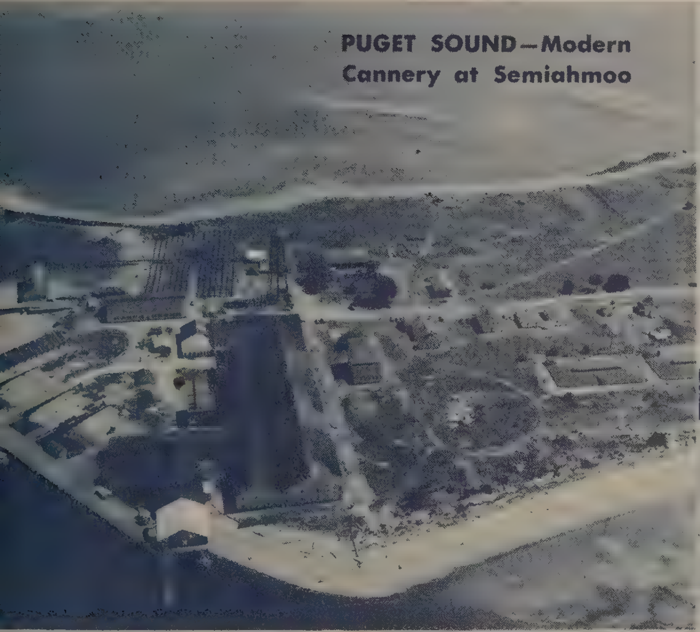
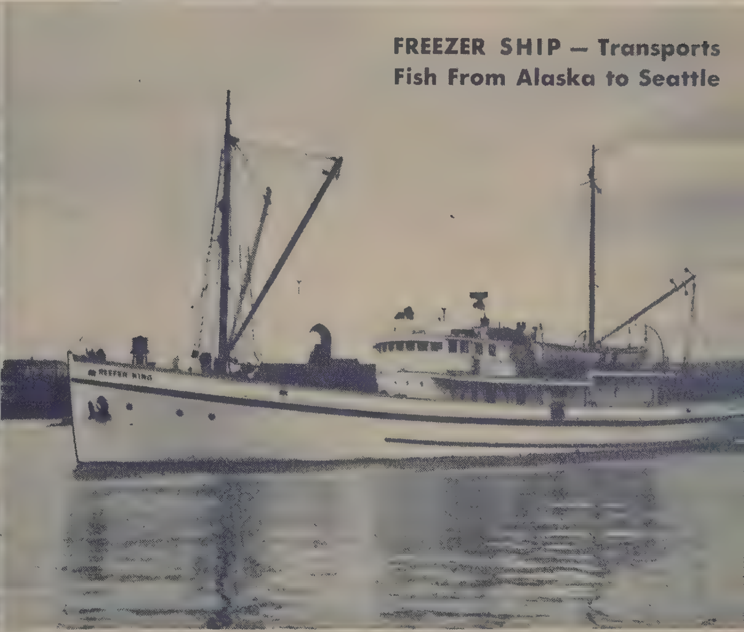


PUGET SOUND—Modern Cannery at Semiahmoo

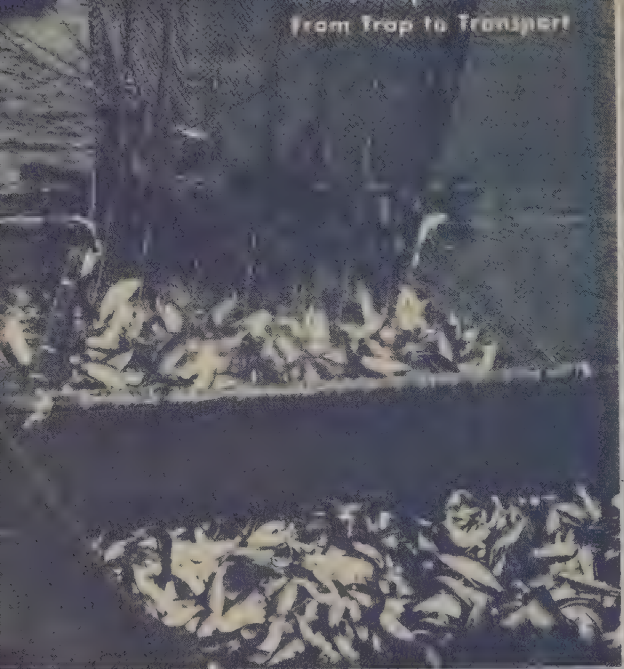


FREEZER SHIP — Transports Fish From Alaska to Seattle

ALASKA—Remote Cannery Located on Bristol Bay

BRITISH COLUMBIA—Cold Storage and Cannery

COLUMBIA RIVER—Integrated Operation for Canning, Freezing, Vitamin Oils, By-Products



From Trap to Transport

THE TOOLS of the TRADE are FIBERS and STEEL

Nets and cordage, hooks and knives—after all, these are the fundamental tools of the fisherman, along with boats of course. From rough manila through cotton and fine linen—and even to nylon now—the fisherman must have fibers, and they must be of the very best for nets and lines.

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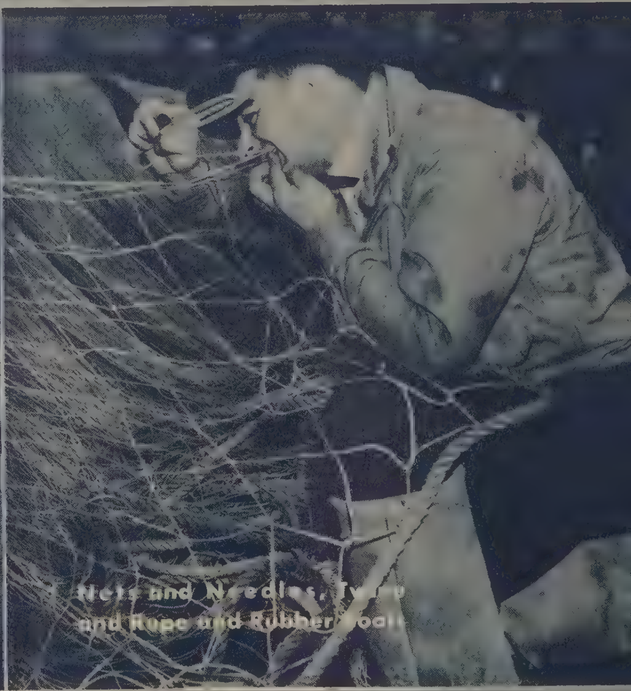
Filleting Sole Needs
Sharp Knives, Deft Hands



Nets and Needles, Twine
and Rope and Rubber Boots

Halibut Fishermen Bait
Hooks on Miles of Gear

Pacific Crab Pots, Woven
of Stainless Steel Wire

Even A Boat Must Rest Sometimes

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Elfin Cove, Alaska—Fairweather Range Behind

Depoe Bay, Oregon

Seattle, Wash., Fleet Berthed in Salmon Bay

Hoquiam, Washington, Fishing Fleet Base

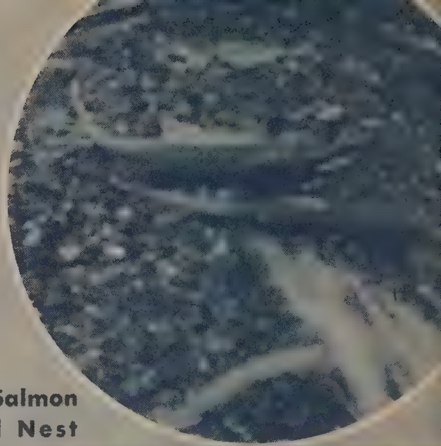
BELLE of PORTUGAL

San Diego, California, Clippers and Embarcadero

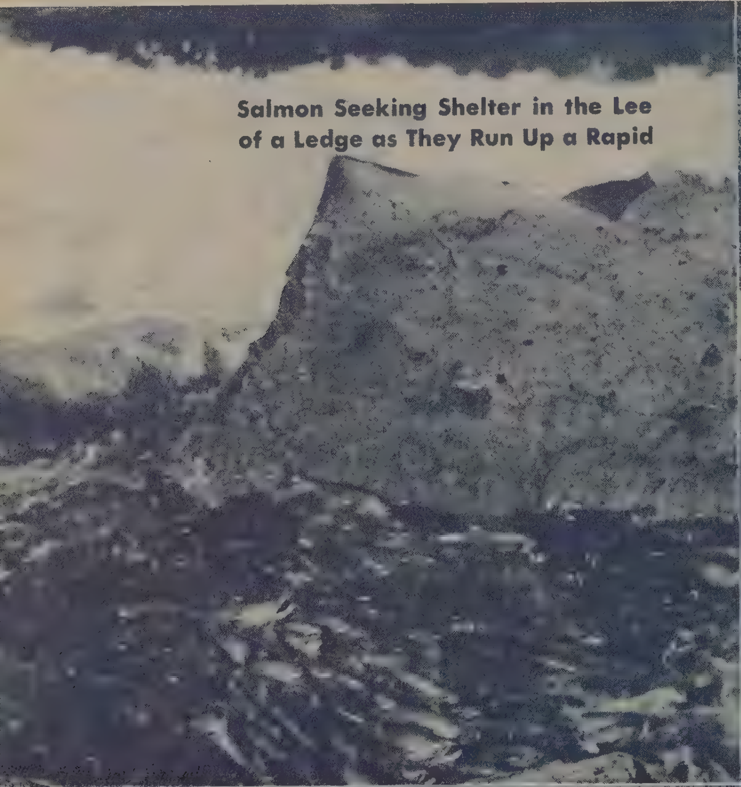
The Seed of the Sea

Wisely used, the fisheries of the Pacific are a perpetual resource. To determine the degree of use which does not impair nor destroy requires scientific research, each year employed more widely and more intelligently. Conservation must protect spawning grounds from destruction by power and pollution, as well as mature fish from overfishing. Had there been no fishways at Hell's Gate on the Fraser River in 1948, the great flood would have utterly destroyed the salmon run.

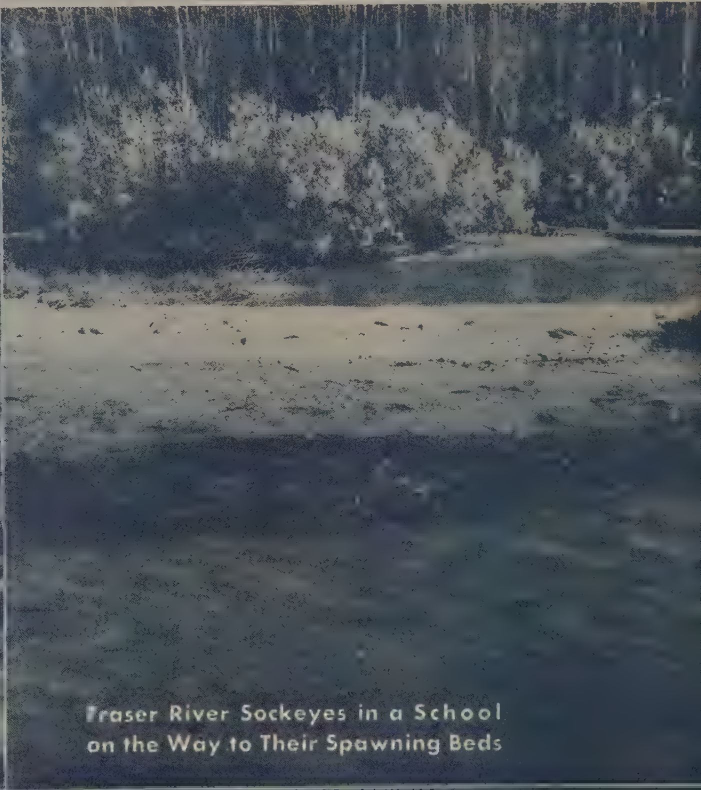
PACIFIC FISHERMAN YEARBOOK
1949



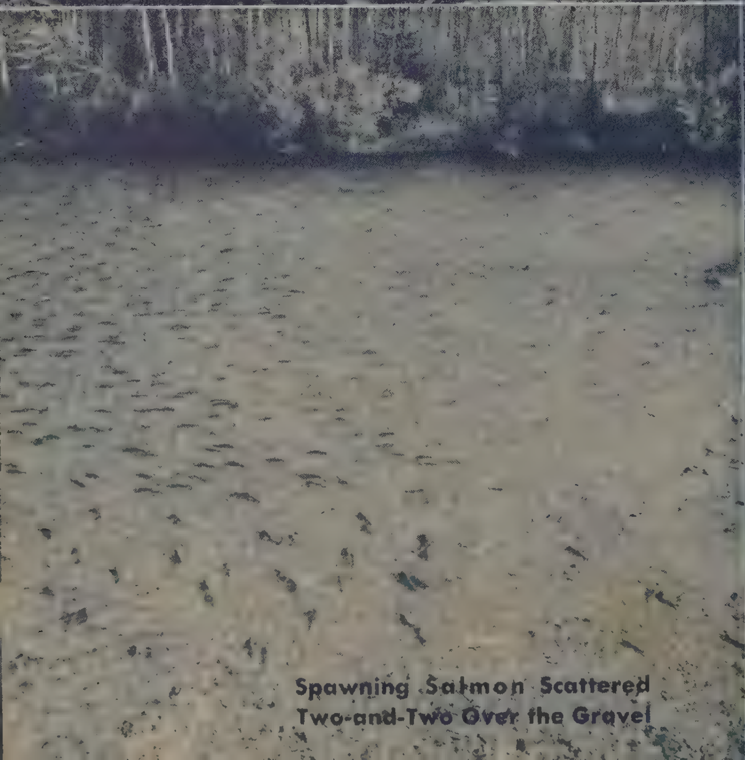
A Pair of Spawning Salmon Above Their Gravel Nest



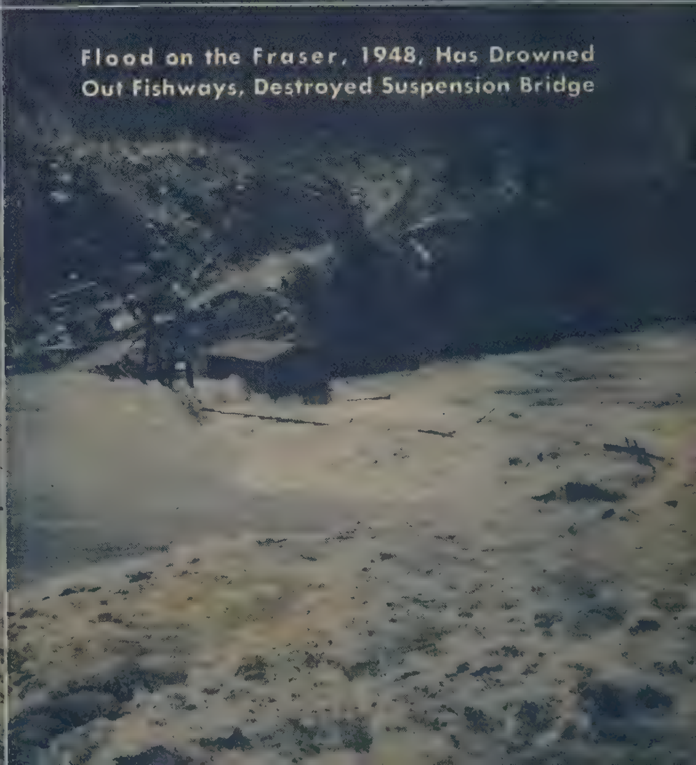
Salmon Seeking Shelter in the Lee of a Ledge as They Run Up a Rapid



Fraser River Sockeyes in a School on the Way to Their Spawning Beds



Spawning Salmon Scattered Two-and-Two Over the Gravel



Flood on the Fraser, 1948, Has Drowned Out Fishways, Destroyed Suspension Bridge

More than a million more—

That is the count of California's 1948 sardine pack, as contrasted with that of 1947. The actual count was 2,886,475 cases in 1948 vs. 1,814,050 in 1947.

The catch was bigger, yes; but the precentage of increase in catch was far less than the percentage of increase in the canned pack.

High price of raw fish, and relatively low markets for by-products, sent an unprecedented proportion of the year's yield into cans.

There lay the essential fact behind the marked comeback of California sardine canning in 1948.

With 66,085 tons more of sardines to work on, California sardine canners in 1948 packed an increase of more than 1,000,000 cases of sardines than they did in 1947.

This phenomenon was made possible by the utilization of practically no fish for straight reduction—and this condition in turn was made necessary by the high price paid for fish, a price which necessitated canning every fish possible.

Despite its great gain—in percentage as well as in cases—from 1,814,050 cases in 1947 to 2,886,475 cases in 1948—the pack was the smallest since 1938, save for 1947.

Monterey More Than Doubles Its Canned Sardine Pack

With a pack of 952,317 cases in 1948, Monterey more than doubled its production of the year before, when the Northern California area produced only 412,833 cases.

The San Pedro district also made a long gain, from 1,399,590 cases in 1947 to 1,934,158.

Faced with a perplexing cost problem, the industry in 1948 swung heavily to 1-lb. tall cans, with the result that the traditional oval tin accounted for only 1,058,188 cases, as compared with 1,828,287 cases of other sizes, principally talls.

Off-Season Operations Reach Record Volume in 1948

Sardine canning of specialty packs under the California law which permits such operations during the general closed season reached record levels in 1948.

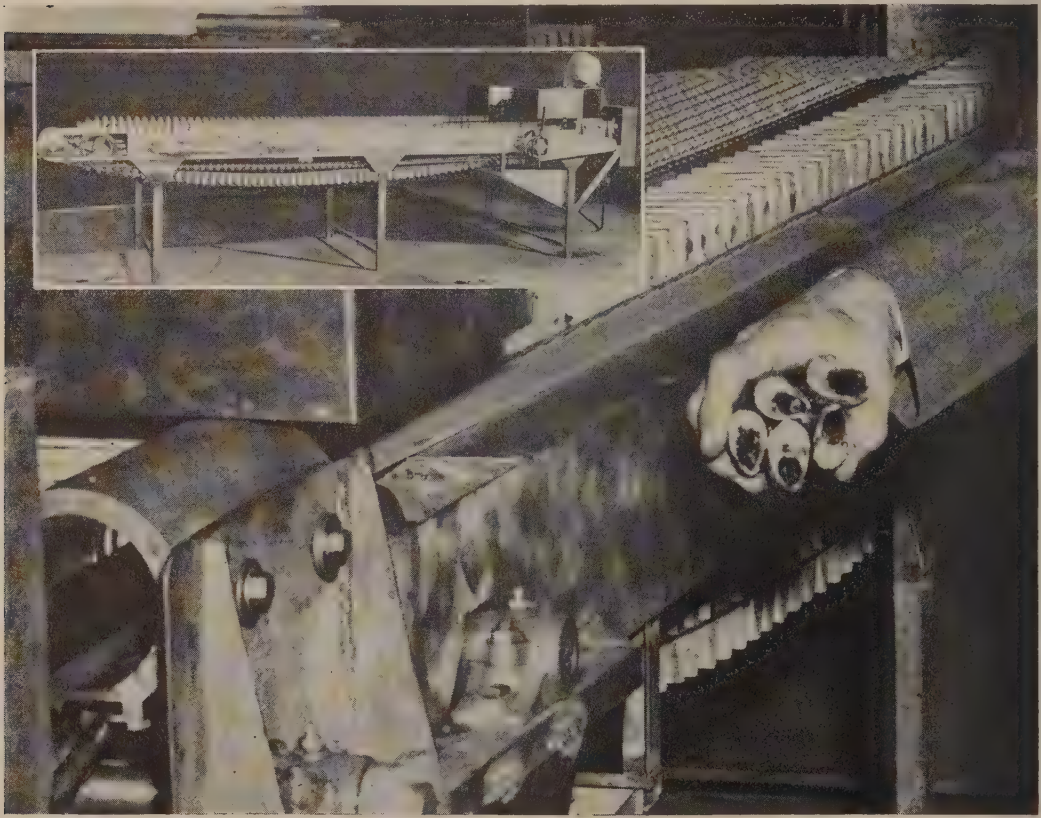
1948-CALIFORNIA SARDINE PRODUCTION-1948

MONTHS	SAN FRANCISCO AREA				MONTEREY				SAN PEDRO AND SAN DIEGO				Grand Total Cases (Equivalent to ovals)
	TONS OF FISH	CASES 1-LB. OVALS	CASES OTHER SIZES*	TOTAL CASES	TONS OF FISH	CASES 1-LB. OVALS	CASES OTHER SIZES*	TOTAL CASES	TONS OF FISH	CASES 1-LB. OVALS	CASES OTHER SIZES*	TOTAL CASES	
January	40	921		921	582	6,790	5,584	12,374	1,598	10,428	6,171	16,599	**29,894**
February	50	658	80	738	1,267	6,733	8,654	15,387	8,543	50,966	23,913	74,879	**91,004**
March					139		2,291	2,291					**2,291**
April					32		457	457	1,316		23,331	23,331	**23,788**
May					1,224		21,756	21,756	85		1,345	1,345	**23,101**
June	169		3,791	3,791	5,407		117,624	117,624	35		664	664	**122,079**
July	101		2,700	2,700	4,791		101,206	101,206	207		4,597	4,597	**108,503**
Spring Total	**360**	**1,579**	**6,571**	**8,150**	**13,442**	**13,523**	**257,572**	**271,095**	**11,784**	**61,394**	**60,021**	**121,415**	**400,660**
August	12	102		102	6,303	88,368	29,273	117,641	4,699		84,267	84,267	**202,010**
September	202	2,006		2,006	18,120	148,861	112,851	261,712	3,188		55,106	55,106	**318,824**
October	726	10,626	5,179	15,805	4,415	47,480	35,390	82,870	38,845	195,246	486,139	681,385	**780,060**
November	273	3,515	1,841	5,356	4,035	24,940	45,686	70,626	28,155	155,910	320,722	476,632	**552.614**
December	144	1,436	1,462	2,898	6,522	63,760	50,296	114,056	35,097	239,442	275,911	515,353	**632.307**
Fall Total	**1,357**	**17,685**	**8,482**	**26,167**	**39,395**	**373,409**	**273,496**	**646,905**	**109,984**	**590,598**	**1,222,145**	**1,812,743**	**2,485,815**
Grand Total	**1,717**	**19,264**	**15,053**	**34,317**	**52,837**	**386,932**	**531,068**	**918,000**	**121,768**	**651,992**	**1,282,166**	**1,934,158**	**2,886,475**

* "Cases Other Sizes" are given in "Equivalent of Ovals," the packs of various styles of cans and sizes of cases having been reduced to a basis of standard cases equivalent in quantity to cases containing four dozen 1-lb. oval tins.

Clean as a Whistle!

that goes for the fish prepared on the G-E Fish Cutting and Eviscerating Machine—and for the Equipment itself



They're All Talking About These—*Advantages*

—Vacuum pump allows continuous motion of fish belts and the heads, tails and entrails all go in one chute by a dry process.

—Cutting machine is constructed of stainless steel on top and down the sides from the center belt. All shafting and knives are stainless steel.

—There are no installation costs other than flumes for cut fish, and the wages of an electrician to hook up the motor.

—The machine is a complete unit, easily moved.

—It is 100% efficient with no vacuum loss.

—There is a complete cycle of the piston for every fish pocket, and the speed is 200 fish per minute, per belt.

—It will clean soft fish as well as firm, and leaves the entrail cavity wide open, not collapsed.

—The machine can be used for sardines, herring, mackerel, anchovies, etc., and is easily adjustable for any length of cut.

WARD W. GREEN
Machinery Sales Co.

Specialized Cannery Equipment

P.O. BOX 1427, MONTEREY, CALIF.
PHONE (all hours) MONTEREY 7752

EXPORT ORDERS HANDLED BY
UNIVERSAL CANNING MACHINERY CO.
762 Bayview, Pacific Grove, California

CALIFORNIA CANNED SARDINE PACK--1912 TO 1948

Year	Monterey and San Francisco Bay District							San Pedro District						San Diego District			Grand Total Cases	Year
	1-Lb. Ovals (Cases)	1-Lb. Talls (Cases)	½-Lb. Cans Miscellaneous (Cases)	½-Lb. Fillets (Cases)	5-Oz. Talls (Cases)	Other Sizes (Cases)	Total Cases	1-Lb. Ovals (Cases)	1-Lb. Talls (Cases)	½-Lb. Cans Miscellaneous (Cases)	5-Oz. Talls (Cases)	Other Sizes (Cases)	Total Cases	¼-Lb. Square (Cases)	Other Sizes (Cases)	Total Cases		
1912....	17,702	....	....	....	....	1,072	18,774	....	....	....	....	....	....	....	....	....	**18,774**	1912
1913....	73,686	....	....	....	....	....	73,686	....	....	....	....	....	....	....	....	....	**73,686**	1913
1914....	80,834	....	....	....	....	....	80,834	....	....	....	....	....	....	....	....	....	**80,834**	1914
1915....	46,625	....	....	....	....	609	47,234	....	....	....	....	....	....	....	....	....	**47,234**	1915
1916....	97,100	....	....	....	....	8,532	105,632	2,512	....	....	....	3,296	5,808	5,856	48,799	54,655	**166,095**	1916
1917....	331,065	....	....	....	....	29,809	363,472	131,347	....	....	....	546,033	679,120	71,466	76,136	147,602	**1,190,194**	1917
1918....	593,448	....	....	....	....	26,151	619,609	325,587	....	....	....	433,374	758,961	67,785	38,633	106,418	**1,484,979**	1918
1919....	805,884	....	....	....	....	27,084	832,968	125,784	....	....	....	105,741	231,514	39,613	47,420	87,033	**1,151,515**	1919
1920....	....	....	....	....	....	....	706,726	....	....	....	....	....	244,900	....	....	111,370	**1,062,996**	1920
1921....	287,954	....	....	....	....	10,975	298,929	77,048	....	....	....	3,765	80,813	8,033	1,337	9,370	**389,112**	1921
1922....	353,188	....	....	....	....	1,479	354,667	340,938	....	....	....	6,096	347,034	20,986	6,154	27,140	**729,034**	1922
1923....	580,984	....	....	....	....	10,001	590,985	490,064	....	....	....	2,769	492,833	26,058	22,147	48,205	**1,132,023**	1923
1924....	631,774	....	....	....	....	22,416	654,190	693,133	....	....	....	4,491	697,624	53,297	15,017	63,314	**1,420,128**	1924
1925....	737,743	....	....	....	....	37,119	774,862	920,191	....	....	....	2,685	922,876	22,656	33,385	56,041	**1,753,779**	1925
1926....	1,158,133	....	31,483	....	....	2,867	1,192,483	861,088	....	....	....	21,702	861,481	15,761	72,658	88,419	**2,163,755**	1926
1927....	1,341,872	....	36,363	237	17,808	826	1,397,106	1,046,453	....	....	119,815	....	1,166,268	37,839	24,199	62,038	**2,625,412**	1927
1928....	1,511,535	4,569	43,754	159	80,252	2,495	1,642,764	945,676	9,652	....	146,724	....	1,099,052	30,540	42,974	73,514	**2,815,330**	1928
1929....	2,039,526	54,618	16,969	11	75,101	2,187	2,188,412	1,438,159	76,271	8,072	168,039	33,753	1,724,294	10,979	17,774	28,753	**3,941,459**	1929
1930....	1,579,408	74,043	19,692	391	141,524	3,751	1,818,809	863,254	106,460	2,909	228,965	8,138	1,209,726	16,429	24,560	40,989	**3,069,524**	1930
1931....	1,004,215	43,722	11,280	....	40,375	337	1,099,929	498,996	59,853	11,931	119,390	1,467	691,637	3,312	113	3,425	**1,794,991**	1931
1932....	459,756	4,467	3,276	88	17,726	2,528	487,481	415,874	36,292	....	54,197	....	506,363	7,360	281	7,641	**1,001,845**	1932
1933....	838,533	47,575	4,604	....	38,013	1,532	930,217	365,750	57,969	....	53,996	4,336	482,051	10,592	....	10,592	**1,422,860**	1933
1934....	1,091,158	48,769	6,527	8,361	67,913	2,675	1,225,413	531,619	119,506	....	164,735	....	815,860	195	10,268	10,463	**2,051,736**	1934
1935....	1,126,466	218,523	39,566	91,525	128,168	27,704	1,631,952	615,808	135,531	25,519	112,264	251	889,373	....	11,437	11,437	**2,532,762**	1935
1936....	1,089,683	202,148	89,280	113,516	124,490	41,946	1,661,063	586,038	259,793	132,488	156,649	749	1,135,717	10,380	12,483	22,863	**2,819,643**	1936
1937....	679,317	227,806	51,068	73,785	68,164	9,284	1,109,424	761,776	634,215	263,729	200,060	1,509	1,861,289	2,103	10,388	12,491	**2,983,204**	1937
1938....	721,036	58,168	104,419	97,277	154,488	16,287	1,151,675	600,532	318,691	212,064	162,245	....	1,293,532	19,056	....	19,056	**2,464,263**	1938
1939....	1,248,747	310,168	125,251	141,900	138.217	28,538	1,992,821	627,524	308,896	217,100	178,072	1,520	1,333,112	148	81	229	**3,326,162**	1939
1940....	933,955	249,195	158.300	151,518	225,975	18,384	1,737,327	664,241	398,960	230,771	156,681	72	1,450,725	37	....	37	**3,188,089**	1940
1941....	1,601,506	1,092,720	234,093	182,703	296,568	54,961	3,462,551	689,210	870,256	216.972	151.384	2,136	1.929,958	2,279	496	2,775	**5,395,284**	1941
1942....	802,795	663,309	8,283	75,386	94,755	59.695	1,704.223	619,881	1,342,030	85.776	90.672	2,918	2,141.277	....	1,285	1,285	**3,846,785**	...1942
1943....	1,045,451	832,934	128,438	....	20,208	36,037	2,063,068	400,504	846,314	44,516	26,507	2,235	1,320,076	....	697	697	**3,383,841**	...1943
1944....	1,051,397	1,088,918	61,828	20,584	374	18,255	2,241,356	434,414	963,551	23,297	....	1,040	1,422,302	....	....	....	**3,663,658**	...1944
1945....	766,554	951,346	81,019	10,075	....	102,391	1,911,385	444,649	1,480,175	48,215	....	....	1,973,039	....	....	....	**3,884,424**	1945
1946....	123,063	171,698	39,376	10,233	....	9,050	353,420	602,008	2,073,679	73,125	....	....	2,748,812	....	....	....	**3,102,232**	1946
1947....	108,289	71,691	72,995	155,677	....	4,181	412,833	510,760	802,243	29,327	57,260	....	1,399,590	....	1,627	1,627	**1,814,050**	1947
1948....	406,196	....	....	....	....	546,121	952,317	651,992	....	....	....	1,282,166	1,934,158	....	⊕	....	**2,886,475**	1948

NOTE:—Figures for 1948 are preliminary totals from official sources. Those for previous years have been corrected from statistics of the California Division of Fish and Game. Full segregation of the various sizes is not available for years prior to 1926 and is estimated for 1948. Figures for years prior to 1948 are given in cases "as they run," without reduction to standard cases The great majority of the production however, consists of 48-lb. cases. Figures for "Other Sizes" in 1948 have been reduced to standard cases, equivalent to cases of 48-1-lb. ovals.

⊕Segregation of San Diego production not available. Figures are combined with San Pedro district.

For example, Monterey packed more than 230,000 cases of sardines, counted on the basis of equivalent to standard cases of ovals, during the "closed season" period from March 1 through July.

In its "closed season" the Southern California district produced in the neighborhood of 170,000 cases.

1948 Sardine Experience Better, But Far From Good

Although as 1948 ended and it was apparent that the California sardine catch for both the calendar year and the 1948-49 season would be better than the year and previous season, there was small cause for rejoicing.

In the first place, the 1947 catch had been the smallest since 1923-24 and the 1948 catch was light.

Secondly, the market for canned goods was none too strong.

Thirdly, there were indications that a bag limit might be placed on the entire California sardine catch for 1949-50 of 100,000 tons, with no reduction permits granted at all.

One of the first omens of things to come in 1949 appeared at the December, 1948, meeting of the California Fish & Game Commission when that body, at the request of the Sardine Advisory Committee, ruled that sardines less than 14" long can not be taken from Jan. 16 to April 15, 1949, for the Monterey and San Francisco areas; and from Feb. 2 to April 15 from southern California waters.

Although not much canning of sardines is done between the end of the regular sardine season and April, industry observers believed that the 14" rule would contribute to increased spawning.

It is the generally accepted theory that during the period Jan. 15 to April 15 sardines are heading south along the Pacific Coast to spawning grounds in Mexican waters.

Since 14" sardines haven't been seen in any quantities for many years in the fishery, the commission's ruling acts as a virtual closure of that period.

At the same meeting Richard S. Croker, chief, Bureau of Marine Fisheries, Division of Fish & Game, stated that the sardine population is at a dangerously low level, and recommended that no sardine reduction permits be granted for the 1949-50 season. No action was taken on the recommendation at that time.

1948 Sees Efforts to Restore Greatness of Sardine Fishery

It was agreed by all hands that

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1947-48 was California's worst sardine season. In San Francisco it never really got started, with only 323 tons landed there. Some 15,540 tons were landed in Monterey—hardly more than an average week's catch during a normal season; and in southern California the picture was dismal, with some 93,811 tons landed as compared to 202,302 tons the season previous.

A few Los Angeles harbor seiners operated in March and April, delivering to canneries packing the legal, off-season 8-oz. oblong can.

Thoroughly alarmed, the California sardine industry early in 1948 got busy on plans for the 1948-49 season.

At a meeting in May of the Fish and Game Commission the Sardine Advisory Committee brought in a number of recommendations which were adopted as rules by the Fish & Game Commission, and the commission allotted 100,000 tons of sardines for reduction purposes. As it later turned out, no straight reduction plants operated at all during the season, nothing being reduced save offal and fish unfit for canning, by canners.

Industry's Conservation Recommendations

The recommendations of the Sardine Advisory Committee were as follows:

1. Legal size of sardines to be limited to a minimum of 8" with 25% tolerance by weight.

2. The sardine season to be shortened voluntarily by one month's time; the northern season ending Jan. 15, and the southern season Feb. 1. No sardines to be taken for any purpose between Jan. 15 and April 15 in the north, and Feb. 1 and April 15 in the south.

3. Voluntary limit of fishing to five days per week.

4. Initial allocation of 100,000 tons of sardines for reduction purposes, with an additional allotment if the total catch should exceed 200,000 tons. Permission for packers to pool their permits.

5. In order to insure compliance with the voluntary measures, the packers proposed that every processor post bond of $5,000. Each offense would mean forfeiture of the bond, and no fish would be delivered to any processor unless such bond was posted. Any boat violating the size limit would forfeit the entire catch. All forfeited funds would be used for further expansion of the sardine research program.

6. The present Sardine Advisory Committee was to be constituted as an ex-officio committee of the Fish & Game Commission; the committee, jointly with the Bureau of Marine Fisheries to undertake the formulation of a long-range program of regulation of the sardine fishery.

All the recommendations were to be voluntary, except for the 100,000

1936-1948 California Sardine Industry

Catch, Pack, Oil and Meal Yield, by Seasons

	Catch, Tons	Oil, Gallons	Meal, Tons	Case Pack, 1-Lb. Ovals or Equivalent
1936-37 SEASON				
Northern District	139,429	5,509,905	23,686	241,607
Central District	206,229	6,814,184	31,867	1,288,205
Southern District	142,483	1,975,834	19,562	1,459,234
Season Totals	**488,141**	**14,299,923**	**75,115**	**2,989,046**
1937-38 SEASON				
Northern District	132,248	4,659,147	23,058	160,977
Central District	104,464	3,067,587	15,383	828,737
Southern District	109,122	1,448,543	14,540	1,310,715
Season Totals	**345,834**	**9,175,277**	**52,981**	**2,300,429**
1938-39 SEASON				
Northern District	200,361	7,804,909	34,751	224,112
Central District	180,090	5,462,066	28,859	1,063,363
Southern District	148,125	2,235,082	22,603	1,286,301
Season Totals	**528,576**	**15,502,057**	**86,213**	**2,573,776**
1939-40 SEASON				
Northern District	211,471	9,313,706	36,324	286,639
Central District	227,231	7,090,963	34,568	1,763,401
Southern District	93,176	985,323	12,161	1,084,928
Season Totals	**531,878**	**17,389,992**	**83,053**	**3,134,968**
1940-41 SEASON				
Northern District	117,817	4,809,853	20,541	288,413
Central District	165,145	5,197,570	25,805	1,219,846
Southern District	171,747	2,390,887	24,776	1,608,207
Season Totals	**454,709**	**12,398,310**	**71,122**	**3,116,466**
1941-42 SEASON				
Northern District	185,921	7,162,343	29,935	854,709
Central District	249,717	7,222,683	36,309	2,429,804
Southern District	147,825	2,113,939	18,859	1,870,601
Season Totals	**583,463**	**16,498,965**	**85,103**	**5,155,114**
1942-43 SEASON				
Northern District	115,586	4,467,454	19,114	413,165
Central District	183,158	5,590,335	28,255	1,429,652
Southern District	202,597	3,090,994	29,614	1,862,073
Season Totals	**501,341**	**13,148.783**	**76,983**	**3,704,890**
1943-44 SEASON				
Northern District	126,132	5,018,816	20,064	425,487
Central District	212,383	6,578,416	32,840	1,563,036
Southern District	135,007	2,185,779	20,608	1,161,750
Season Totals	**473,522**	**13,783,011**	**73,512**	**3,150,273**
1944-45 SEASON				
Northern District	136,337	5,616,063	22,258	271,528
Central District	234,613	8,305,401	34,920	887,190
Southern District	177,465	3,781,148	26,795	1,102,662
Season Totals	**548,415**	**17,702,612**	**89,973**	**2,261,380**
1945-46 SEASON				
Northern District	83,483	3,581,808	12,765	456,001
Central District	142,282	4,803,560	20,297	1,220,579
Southern District	170,325	2,846,216	23,481	2,073,963
Season Totals	**396,090**	**11,231,584**	**56,543**	**3,750,543**
1946-47 SEASON				
Northern District	2,846	65,002	519	6,590
Central District	26,818	755,674	3,893	155,329
Southern District	198,052	3,314,193	26,870	1,931,544
Season Total	**227,716**	**4,134,869**	**31,182**	**2,093,463**
1947-48 SEASON				
Northern District	383	4,440	37	5,793
Central District	14,492	260,375	1,756	222,867
Southern District	95,362	1,458,983	11,762	1,258,660
Season Total	**110,237**	**1,723,798**	**13,555**	**1,487,320**
OFF-SHORE FLOATING REDUCTION PLANTS (not included above)				
1936-37 Season	239,257	9,034,041	39,876	....
1937-38 Season	74,334	2,479,731	12,389	....
1938-39 Season	57,212	2,021,810	9,535	....

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1948 — CALIFORNIA SARDINE LANDINGS — 1948

Dates	San Francisco Tons	Monterey Tons	San Pedro Tons
Jan. 1			
2			
3		13	
4			
5		45	113
6		123	29
7		37	74
8			
9		6	10
10		20	29
11			
12			80
13		29	4
14			155
15			42
16			100
17			7
18			
19			113
20		37	189
21			78
22			58
23—Light of the Moon.			
30		27	
31			123
Feb. 1			
2			5
3		125	263
4		70	118
5		8	27
6			
7			10
8			
9		41	197
10			
11			
12			
13			415
14		693	1,146
15	End of regular canning season.	End of regular canning season.	
16			1,098
17			1,436
18			1,465
19			390
20			44
21			254
22—Light of the Moon.			
26			
27			
28			120
29			
Mar. 1			4
2			364
Aug. 1			Season not open until Oct. 1st
2			
3			
4			
5			
6		13	
7		97	
8			
9			
10		130	
11		892	
12		1,031	
13		207	
14		326	
15			
16			
17		390	
18—Light of the Moon.			
22			
23			
24			
25		493	
26	12	1,254	
27		738	
28		63	
29			
30			
31		518	
Sept. 1		1,323	
2		370	
3		6	
4		148	
5			
6			
7		848	
8		1,422	
9	35	597	
10		237	
11		79	
12			
13			
14	89	1,202	
15		1,075	
16		117	
17—Light of the Moon.			
20			
21			
22		2,700	
23		1,800	
24		1,200	
25		728	
26			
27			
28		894	
29		2,130	
30		1,302	
Oct. 1		380	7,148
2	35	23	5,047
3			
4			
5		365	7,306
6	60	543	6,820
7		882	1,079
8			
9			*1,171
10			
11			
12		*533	1,297
13		84	810
14			652
15			528
16			23
17—Light of the Moon.			
22			
23			*379
24			
25			
26		53	
27		116	*335
28		28	60
29		230	1,698
30		302	3,948
31			
Nov. 1			
2			
3		150	2,785
4		120	
5	75		
6			
7		*151	
8			
9		40	
10			
11			
12			
13—Light of the Moon.			
21			
22			
23		1,166	5,044
24		572	7,024
25			
26			140
27		430	*2,797
28			
29		*58	*181
30	80	1,535	4,943
Dec. 1		700	4,328
2		1,100	2,748
3		232	2,638
4		*250	
5			
6			
7		*184	3,790
8			2,558
9		334	*2,941
10		328	1,740
11		153	1,676
12			
13			
14			619
15—Light of the Moon.			
21		240	2,777
22		225	3,276
23	16	300	571
24			
25			
26			
27			
28		72	1,542
29		450	2,518
30		313	1,141
31			*558

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*Includes some landings previously unreported.

tons allotment and the size of 8", which were to be enforced by the Fish & Game Commission.

The report of the Sardine Advisory Committee stated that it did not believe that commercial fishing was to blame for the failures of the previous two seasons, but rather unknown oceanographic causes were at fault.

The report stated that the committee was unable to determine whether the failure was cyclical or not, but that further research was necessary.

1948 "Summer Pack" Outstanding

During June and July it looked like old times on Monterey's Cannery Row.

From 6,000 to 7,000 tons of sardines were landed for the summer pack and some 200,000 cases of sardines in 8-oz. oblong flat cans put up.

During the period the price of sardines fluctuated from a high of $75 per ton to the fishermen, to a low of $50 per ton.

The market on the 8-oz. oblongs varied from a high of $10.00 per case to a low of $6.50.

The biggest day of deliveries was in June when some 600 tons were brailed. During the week ending July 9 receipts totaled 1,543 tons, producing 40,000 cases.

In August a coastwide bag limit on the catch of sardines was proposed at a meeting of the Pacific Marine Fisheries Commission at Bellingham.

Price Negotiations Result In $67.50 Figure for Sardines

Following long days of bargaining, Monterey boat owners, fishermen, and plant operators agreed on a price of $67.50 per ton Aug. 5, and the boats went out that night, four days after opening of the season.

The price of $67.50 was to prevail in San Francisco and San Pedro also. During the 1947-48 season prices ranged from $45 at the beginning of the season to $115 per ton as the "famine" year drew to a close.

During the 1946-47 season the price of sardines was $30 per ton, but it was reliably reported that some loads were landed for $60 per ton. And in December, 1947, the price did go to $60 per ton.

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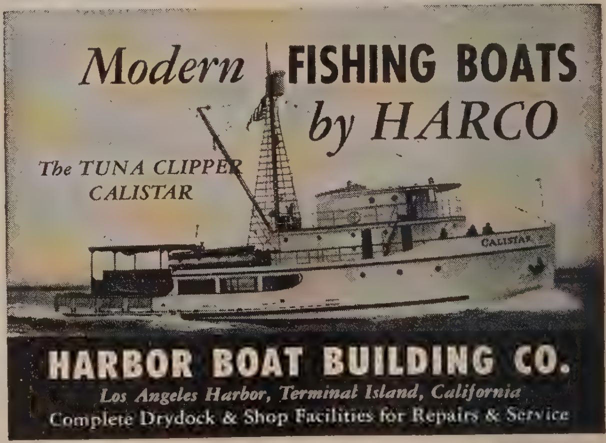

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California Anchovy Landings by Ports — 1947 and 1948

Month and Year	Eureka Region, Pounds	San Francisco Region, Pounds	Monterey Region, Pounds	Santa Barbara Region, Pounds	Los Angeles Region, Pounds	San Diego Region, Pounds	California Total Pounds	Month and Year
1948								**1948**
January	.....	.....	.....	.....	494,928	2,893	**497,821**	January
February	.....	.....	2,931,650	.....	271,342	200	**3,203,192**	February
March	.....	.....	2,075,490	.....	288,271	1,145	**2,364,906**	March
April	.....	84,300	264,820	.....	176,269	280	**525,669**	April
May	.....	220,830	35,820	.....	103,622	.....	**360,272**	May
June	.....	9,868	7,200	51,976	99,305	881	**169,230**	June
July	1,200	14,093	22,625	152,164	303,337	.....	**493,419**	July
August	610	42,050	468,443	.....	278,425	.....	**789,528**	August
September	640	8,500	721,527	.....	439,244	.....	**1,169,911**	September
Total	**2,450**	**379,641**	**6,527,575**	**204,140**	**2,454,743**	**5,399**	**9,573,948**	**....Total**
1947								**1947**
January	.....	.....	24,262	.....	135,917	.....	**160,179**	January
February	.....	.....	177,500	.....	104,027	.....	**281,527**	February
March	.....	3,400	3,800	.....	119,073	.....	**126,273**	March
April	.....	5,040	1,434,006	.....	116,455	.....	**1,555,501**	April
May	.....	27,793	2,829,002	.....	76,352	.....	**2,933,147**	May
June	.....	19,250	676,725	.....	46,002	73	**742,050**	June
July	.....	19,960	3,200	.....	38,207	1,420	**62,787**	July
August	.....	16,750	2,700,072	.....	132,768	2,010	**2,851,600**	August
September	4,500	145,050	5,127,674	.....	1,135,810	.....	**6,413,034**	September
October	.....	72,330	32,380	9,610	637,397	.....	**751,717**	October
November	.....	64,800	450	92,325	143,351	.....	**300,926**	November
December	.....	15,800	2,486,745	97,515	161,720	.....	**2,761,780**	December
Total	**4,500**	**390,173**	**15,495,816**	**199,450**	**2,847,079**	**3,503**	**18,940,521**	**....Total**

The price of sardines has ranged from a low of $4 per ton in 1932 to the $115 per ton unofficially reported at the end of the 1947-48 season.

The price was $11 per ton from 1926 through 1929. It dropped to $8 in 1930, and 1931, only to go as low as $4 in 1932, rising to $7 in 1933.

The following year saw sardines at $7.50 per ton, rising to $8 in 1935, and $10 in 1936. The price took a jump in 1937 to $13, yielding $2 of that advance in 1938.

During the 1940-41 season the price was $10.50 per ton, and in 1941 it rose to $17 per ton. The price in the succeeding season was set by OPA at $22 per ton and stayed there through the 1945-46 season.

When the 1948-49 season ended fishermen were getting $50 per ton for their fish.

Monterey's fish cannery workers won an "over-the-board" increase of 16c per hour at the start of the 1948-49 season, in the new contract between the AFL Fish Cannery Workers Union and the Monterey fish processors.

The increase brought the minimum wage to $1.44 per hour for men and $1.37 for women. Cutters received $1.49. Other terms of the contract included a 20% "incentive" raise for piece work rates to packers of 1-lb. ovals, 1-lb. talls, and 8-oz. round.

A 25c rise was granted to warehouse, fish room, and packing room foremen. Monthly employees were granted an increase of $22 per month, and additional premium rates during the off season.

Early 1948-49 Season at Monterey

Monterey's fishing fleet delivered 892 tons of good quality sardines to the 13 canneries on Cannery Row, the morning of Aug. 11, creating the first wave of optimism since fishing began Aug. 5. Some 150 tons were landed at Moss Landing Aug. 11.

The few sardines landed in San Francisco were trucked in for the most part, and San Francisco's home fleet of 12 boats or so sailed south to fish out of Monterey or San Pedro.

On Aug. 12, an estimated 1,000 tons was landed at Monterey, and although the catches were not comparable to those of the "good old days" quality of the fish was high, and sizes ranged well above the legal limit of 8".

Northern California's sardine fishing for the September bright showed a catch barely better than that of the poor season preceding.

Monterey fishing perked up for a couple of days right after Labor Day but dwindled again.

Best day of all was 1,422 tons on Sept. 8 but even this quantity was under the average day's catch of a normal season, and made a sorry comparison with the record delivery which saw 8,938 tons landed at Monterey in a single day in September, 1945.

Boom and Bust in South

Southern California's sardine season opened Oct. 1 in a blaze of catches and optimism, but within a week had fizzled like a wet fire cracker. Packers, deciding they had been too generous in meeting the fishermen's demand for $67.50 per ton, offered $45. With a few exceptions the fleet of 150 seiners tied up.

Friday, Oct. 1, saw 6,541 tons brailed; the following day 4,564 tons. With the fleet operating on a five-day week, that ended deliveries until Oct. 5. On that day 7,306 tons were flumed, and the following day, 6,820 tons.

Thus in four days canneries had received 25,131 tons and the panic was on.

They called a halt to operations Oct. 7, except for Coast Fishing Co., Wilmington; and Southern California Fish Corporation, Terminal Island. Operators generally had decided they couldn't pay more than $45 per ton, and so informed fishermen and boat owners. The latter declared they wouldn't accept and a strike was on.

Price Situation Proves Threatening

While most packers agreed there was a dearth of California canned sardines, not only in this country but for export, they had to face several obstacles to making a profit on the pack. So far as export was concerned, there were no ships available on account of the maritime strike which lasted into December. Then there was the price factor. Talls, natural, were quoted at the beginning of the season at $8.50 per case, but almost immediately this dropped to $8.00.

It's

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REFRIGERATION

for the sleek new "LIBERTY"

One hundred feet of trim, true lines that spell efficiency from cutwater to horseshoe. That's the new "Liberty"—a proud addition to the great Pacific fishing fleet. And, as in the case of so many famous tuna clippers, Baker refrigeration was chosen to safeguard the precious cargos of this outstanding new vessel.

To freeze and hold 145 tons of tuna.

Shown at right are two of the three 5½ by 5½ Baker ammonia compressors which supply refrigeration for the "Liberty's" modern, all-brine system.

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NET-LIFE
Net and Line
Preservative

IS UNSURPASSED!

Constant research and testing under all field conditions makes TECHKOTE'S 1949 "NET-LIFE" preservative the best made.

For the best in net preservatives, it is the New NET-LIFE '49 whose seven principle advantages are:

1. Easy to apply (10 minutes); quick to dry (6 to 12 hours).
2. Highest fungicide, bactericide, and germicide value.
3. Uniform pentration to core of the net.
4. No burning of net. Not harmful to handle. No after stickness.
5. A truly homogeneous solution. No settling or separation of ingredients.
6. It plasticizes fibres and cements the cords of the twine.
7. Manufactured under controlled, scientific conditions by the pioneer of this modern type net preservative.

FISHERMEN—INSISTS ON "NET-LIFE"—It is the best money can buy — Accept no substitutes.

AND REMEMBER THIS—Net-Life maintains its protective strength down to the last drop. There is no weakening in quality no matter how much netting is treated.

32 bales of netting being treated with NET-LIFE preservative for large tuna net.

TECHKOTE COMPANY

821 W. MANCHESTER INGLEWOOD (LOS ANGELES), CALIF.
Some Territories Available *Dealer Inquiries Invited*

AMERICAN CANNED FISH VALUES BY AREAS

Year	Pacific Coast						States Other Than Pacific Total	United States Total
	Alaska	California	Oregon	Washington	Total	Percent of Nat'l Total		
1935	$26,072,966	$25,252,965	$ 2,851,987	$ 4,955,117	$59,133.035	78.8	$15,860,684	$74,993,719
1936	45,078,945	26,296,129	2,972,959	3,582,880	77,930,913	82.3	16,726,956	94,657,869
1937	45,041,499	30,741,773	4,163,681	5,276,928	85,223,881	81.2	19,713,750	104,937,631
1938	37,059,151	25,232,688	3,638,815	3,762,575	69,693,229	83.5	13,752,660	83,445,889
1939	34,775,988	31,639,354	4,622,664	5,192,077	76,230,083	79.0	20,228,510	96,458,593
1940	31,836,480	36,949,395	5,294,488	3,987,170	78,067,533	82.9	16,046,513	94,114,046
1941	56,453,007	39,830,950	7,704,434	7,130,960	111,119,351	80.1	27,564,806	138,684,157
1942	48,874,227	44,506,354	12,375,323	8,319,559	114,075,463	78.8	30,567,784	144,643,247
1943	58,479,130	46,842,918	7,242,950	2,975,728	115,540,726	81.8	25,615,584	141,156,310
1944	52,072,335	53.653,337	11,720,608	3,706,586	121,152,866	79.5	31,158,318	152,311,184
1945	45,491,662	60,219,179	12,543,519	7,326,616	125,580,976	82.0	27,219,595	152,800,571
1946	55,081,941	85,457,037	12,164,093	18,202,350	170,905,421	75.1	56,724,033	227,629,454
1947	89,135,362	116,493,682	20,626,850	24,949,347	251,205,241	80.9	59,475,179	310,680,420

Ovals, 1-lb. in tomato sauce, started at $11.00-11.50 and suffered a $1 drop. Coupled with this there was a dollar shortage in the countries where California sardines usually find a ready market, particularly in the Orient.

With sardines at $67.50 packers declared they stood to lose $20 on each ton going into the reduction system.

Consequently packers were concerned with packing every sardine brailed into their plants. It was estimated that during the October dark as high as 16 and even more cases per ton were being packed, but at a high labor cost, with much overtime.

On the other hand, the boat owners had their story, too, and packers sympathized with them. Costs of operations, new nets and gear, shipyard repair, and services had skyrocketed, and they had to have a raw fish price that would show them a profit and permit the fishermen a reasonable share.

Fish were available in immense quantities during the early October fishing. Skippers estimated that the fleet could have taken more than 10,000 tons per day if their vessels had not been on limits of from 25-75 tons. The record landing for southern California is 8,990 tons, set Oct. 1, 1946.

Half-Pound Pack Is Weaker

One factor which may have caused the packers some uncertainty as to the sardine market was the great

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Natural Flavor FILETS of SARDINES
HOVDEN FOOD PRODUCTS CORP
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Fillets, Smoked Natural, White Wine Sauce and Olive Oil

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Standard Pack in Oil or Tomato

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FOOD PRODUCTS CORPORATION

Plants at MOSS LANDING and MONTEREY, CALIF.
General Offices: MONTEREY, CALIFORNIA

VALUE OF PRINCIPAL CANNED FISH PRODUCTS 1921-47

YEAR	PACIFIC SALMON			SARDINES		PACIFIC TUNA	MACKEREL	OYSTERS	SHRIMP	CLAMS	CRABS	MISCELLANEOUS FISH PRODUCTS	Grand Total
	PACIFIC COAST STATES	ALASKA	TOTAL	NEW ENGLAND STATES	CALIFORNIA								
	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
1921-25*	$11,060,592	$29,457,922	$40,518,514	$5,781,523	$4,428,409	$5,751,385	....	$2,704,433	$3,928,434	$1,721,051	$71,087	$1,552,481	$66,457,317
1926-30*	12,772,490	38,329,082	51,101,572	6,281,996	9,494,787	8,990,774	$979,927	2,344,887	5,022,925	2,517,544	36,729	2,703,368	89,474,509
1930-35*	7,301,890	28,513,777	35,815,667	2,974,505	4,519,462	8,646,033	2,117,791	1,392,686	3,836,331	2,242,896	109,235	2,649,056	64,303,662
1936	5,309,438	44,751,633	50,061,071	5,740,454	7,302,273	14,715,391	3,542,895	2,180,869	4,672,198	2,976,297	130,753	3,242,053	94,564,254
1937	8,386,165	44,547,769	52,933,934	4,998,373	8,592,117	18,995,779	2,673,608	2,932,681	7,130,747	3,013,446	269,699	3,634,551	105,174,935
1938	5,728,892	36,636,897	42,365,789	2,367,045	7,102,358	15,183,636	2,896,220	1,886,476	4,872,393	3,189,628	260,134	3,322,210	83,445,889
1939	7,339,727	34,441,122	41,780,849	7,075,096	9,553,663	20,079,567	2,588,695	2,378,945	5,397,662	3,798,319	259,756	3,714,998	96,627,550
1940	6,575,176	31,474,492	38,049,668	3,736,394	8,975,257	23,727,560	4,101,369	2,526,859	4,318,325	3,778,363	308,890	4,659,256	94,181,941
1941	11,199,317	56,217,601	67,416,918	12,475,991	18,091,873	19,397,887	3,503,718	2,997,114	4,882,544	3,711,029	547,617	5,659,466	138,684,157
1942	13,673,968	48,300,209	61,974,177	11,691,981	15,509,964	30,742,493	3,693,082	3,598,703	7,347,330	3,791,058	1,755,065	4,893,094	144,996,947
1943	5,110,847	57,824,267	62,935,114	10,686,471	14,319,877	31,430,189	5,271,203	2,821,556	5,360,647	2,802,420	1,194,483	4,334,350	141,156,510
1944	5,187,136	51,196,140	56,383,276	13,528,541	15,225,919	40,836,117	7,033,997	2,283,429	4,854,799	3,820,612	1,361,458	6,983,036	152,311,184
1945	7,942,102	44,644,303	52,586,405	11,520,387	15,346,472	47,407,451	4,046,691	2,029,953	1,918,633	7,391,098	883,767	9,669,714	152,800,571
1946	20,105,864	53,534,699	73,640,563	19,548,531	19,895,649	59,135,823	7,575,291	5,249,272	8,428,735	11,145,047	4,720,119	18,290,424	227,629,454
1947	31,987,319	88,672,521	120,659,840	27,677,704	16,538,375	90,609,175	15,018,633	4,259,485	8,192,004	8,642,235	2,705,391	16,377,578	310,680,420

* Average.

pack of 9-oz. square cans. In September for instance, 3,847 tons were received by 10 plants and processsed into 99,914 cases. According to observers the oblong can is not too fast a seller, compared with the standard talls and ovals.

In Monterey the fleet didn't go out Oct. 7 due to the uncertainty over price of fish, and were idle for some time thereafter. Monterey canners had goods backing up on them and said they couldn't afford to reduce the fish for meal and oil. Moreover, due to the maritime strike, and a slowdown in the domestic market, they couldn't afford to pack much fish at $67.50.

Boats had been going out on limits of from 25-40 tons in Monterey.

By the end of the early October bright, San Pedro had forged ahead of Monterey in the amount of sardine tonnage produced. However, it had taken Monterey two months to catch 26,523 tons of sardines, while San Pedro had produced over 28,000 tons of sardines in 10 days. Both figures were far ahead of the totals for the year previous.

Monterey had one bumper day when the fleet delivered 2,700 tons of sardines and 170 tons of mackerel —the largest day's catch since 1946.

San Francisco continued in eclipse as a sardine port with the total landed there to Oct. 9 of 231 tons. Most of this had been trucked in from Monterey Bay or southern California.

Voters Reject Anti-Net Bill

In November California's voters marched to the polls and gave a decided "NO!" to the propositions that would have banned commercial fishing on San Francisco Bay, and purse seining south of Pt. San Simeon.

Proposition No. 6 to stop commercial fishing on San Francisco Bay and its tributaries got 1,185,971 votes in favor, and 1,781,935 votes against; while Proposition No. 15, which would have stopped purse seining south of Pt. San Simeon got 1,040,583 votes favorable, and 1,962,200 votes against.

Following defeat of the two propositions, which was hailed as a great victory by the state's commercial fishing interests, "sportsmen's" groups threatened to submit both measures to the state legislature. It was not thought that such measures would have much chance of passing since the people had already given a mandate against the propositions at the polls.

"Master Plan" for Research Presented

In November a master plan for sardine research which had been worked out by the California Marine Research Committee of which Julian G. Burnette, San Francisco, is chairman, was released.

Plans indicated that it would be underway in 1949. It was developed by the technical advisors of the committee consisting of scientists representing the Division of Fish & Game, the U. S. Fish & Wildlife Service, the Scripps Institution of Oceanography, and the California Academy of Sciences.

A general outline of the plan showed how the different projects are assigned to the agencies that are participating.

1. Physical-chemical conditions in the sea (Scripps Institution of Oceanography).

2. Organic productivity of the sea and its utilization (Scripps).

3. (a) Spawning survival and recruitment of sardines (U. S. Fish & Wildlife Service); (b) Measurement of abundance before sardines enter the fishery (Division of Fish & Game).

4. (a) Availability of the stock to the fishermen (behavior of fish as it affects the catch), abundance, distribution, migration (U. S. Fish & Wildlife Service and Division of Fish & Game); (b) Exploratory food studies (Scripps); (c) Physiology and behavior (California Academy of Sciences).

5. Fishing methods in relation to availability (Division of Fish & Game).

6. Dynamics of the sardine population and fishery (conclusion) (all agencies).

During the coming fiscal year the above mentioned agencies have the following funds appropriated to them by the committee:

Scripps	$11,500
U. S. Fish & Wildlife (egg and larvae studies)	25,000
U. S. Fish & Wildlife (oceanographic work off Oregon and Washington)	50,000
California Academy of Sciences	5,000
Division of Fish and Game	3,500

In addition to these amounts considerable sums have been appropriated to Scripps and the Division of Fish & Game by the Legislature, and the Fish & Wildlife Service, by Congress.

During 1949 three vessels belonging to Scripps and two belonging to the Division of Fish & Game will be

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SARDINES
MACKEREL

TOMATO PASTE

SEA VIEW
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CALIFORNIA
Sardines
PACKED WITH WATER AND SALT ADDED

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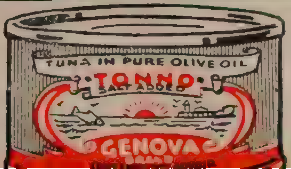
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SALT ADDED
GENOVA

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BRAND
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TUNA
LIGHT MEAT

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There's a "Caterpillar" dealer as close to you as your telephone. He has six sizes of "Caterpillar" Diesel Marine Engines that he can install right now.

Your boat deserves one of these economical, dependable, long-life power plants, backed by the excellent service your dealer is equipped to give you. Call him today!

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MODEL	HORSEPOWER (Continuous, sustained)	ENGINE SPEED (RPM)	BORE AND STROKE	WEIGHT*
D17000	150	1000	5¾ x 8	9640
D13000	120	1000	5¾ x 8	7450
D8800	82	1000	5¾ x 8	5590
D318	80	1600	4½ x 5½	3650
D315	53	1600	4½ x 5½	2960
D311	38	1600	4 x 5	2500

**Weight includes marine reduction and reverse gear and gasoline starting engine.*

CATERPILLAR TRACTOR CO., SAN LEANDRO, CALIFORNIA; PEORIA, ILLINOIS

- The 45-foot fishing boat *Maloa*, owned by A. Paladini, Inc., San Francisco, is powered by a "Caterpillar" Diesel D8800 Marine Engine, turning a 38x34 propeller. The *Maloa* fishes a 100-mile radius from Fort Bragg, Calif. Also shown is a model view of the D8800 Engine.

CATERPILLAR DIESEL
REG. U. S. PAT. OFF.
Marine Engines

used off the coast of California and Mexico; and one vessel belonging to the U. S. Fish & Wildlife Service will be used off the coast of Washington and Oregon.

Stated Mr. Burnette: "Some of these vessels will not devote their entire time to the program. For example, Scripps is collecting data for the Navy; and the Division of Fish & Game is collecting data on other marine fisheries. On some cruises data for several investigations may be collected, while at other times the vessel may devote its entire time to one project.

"The data collected by these vessels will be analyzed by personnel employed by the Scripps Institution of Oceanography at LaJolla, and the U. S. Fish & Wildlife Service at Stanford University.

"Conclusive results from this research program cannot be expected for several years. No off-shore investigations have been conducted since the U. S. Fish & Wildlife Service and Scripps discontinued their work at the outbreak of war. There is, therefore, not sufficient record of previous experience by which the first results of this investigation may be evaluated."

Fish Price Stabilized at $50

The price to fishermen for California sardines stabilized at $50 per ton, and the northern California fleet went out the night of Nov. 22 for the first time since Oct. 6.

At the start of the 1948-49 season the price had been set at $67.50 per ton. Processors later on during the season found they were unable to pay this price and make a profit on their goods. The price in Monterey then went to $45 per ton, but no fishing was done, although fishermen appeared willing.

Finally on Nov. 22 came the word from San Pedro that fishermen and processors there had agreed on a price of $50 per ton, and the Monterey fleet went out that night on that basis.

What really threw the Monterey waterfront into a dither was the fact that as of Nov. 22 when the $50 price came through from San Pedro, Monterey fishermen had orders for approximately 2,000 tons of fish at $45 per ton. Word from San Pedro cancelled this arrangement.

The Monterey fleet tied up first Oct. 6 when processors announced that due to a low fluctuating market they could not afford to pay $67.50 per ton for sardines. Offers of $45 per ton by canners were rejected by boat owners and fishermen. For a few days a compromise of $60 per ton sent some boats out. Then fishermen and boat owners rejected this price until the entire fleet could sail with some guarantee of selling on limit.

About Nov. 12 boat owners and fishermen agreed to accept the $45 price, but canners were said by fishermen and boat owners to have failed to order enough fish to warrant sailing of the entire fleet.

Some fairly good catches were chalked up after the fleet finally sailed from Monterey Nov. 22. One day some 1,720 tons were netted, another day 1,313 went into the hoppers. As the season neared its close the size of the fish became larger. On Dec. 9 although the catch was small the size of the fish averaged 10-11 inches, as compared to the small fish of earlier in the season.

New Plants and New Firms

A number of new fish canneries got under way during the year. Joe Rappa, well known Monterey fishing supply and equipment dealer, organized the Port Y-Ne-Me Pack-

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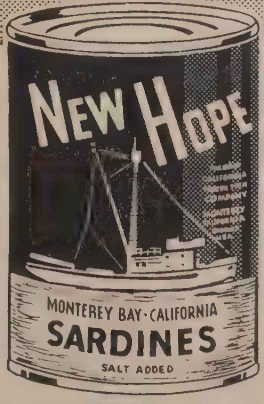

ing Co., of which he is president and general manager, at Port Hueneme.

Sardines, mackerel, tuna and anchovies were to be packed, and capacity of the plant was to be about 1,500 cases per day. Superintendent was Louis Martin formerly with Peninsula Packing Co., Monterey, and others interested in the new cannery were John Mercurio, a nephew of Mr. Rappa, and his brother, Nino, and father, Dominic.

Another new plant is the cannery and reduction works built by San Carlos Canning Co. of Monterey at Oxnard, Calif.

The plant, located some five miles from the water will have fish trucked to it. Holding tanks will have a capacity of 150 tons of fish.

The plant will pack sardines, mackerel, and anchovies. Capacity of the plant will be about 6,000 cases per day. Seven closing machines have been installed, as well as three nine basket United Welding Co. retorts, and two pre-cookers.

Frank Lucido, nephew of Angelo Lucido, president of San Carlos Canning Co., is manager of the new plant, and superintendent is W. B. Longley, formerly assistant superintendent at the Monterey plant of the company.

At Moss Landing, Frank Richey, general manager of the Port Costa Packing Co. built a cannery adjoining his reduction plant.

Sardines, anchovies and squid will be packed. Processing is in two United Welding Co. five basket retorts equipped with Foxboro instruments. There are two closing machines.

Earl F. Songer who has been with Port Costa Packing Co. for many years is operating foreman; and W. R. "Bill" Richey, son of Frank, is associated with his father in the operation of the plant.

Frank Lucido, associated with his two sons, Frank Jr., and John, and his son-in-law Rocco Costanza, built a modern cannery in his Central Packing Co. building in Monterey.

Sardines, mackerel, anchovies, and squid will be packed. The plant has a capacity of 200 cases of 1-lb. tall cans per hour.

There are two American Can Co. closing machines, and an exhaust box, most of the materials for which were furnished by the Pacific Wire Belt Conveyor Co., Los Angeles.

Disaster laid a light hand on California's sardine fleet during the year, but some of the state's sardine processing plants didn't fare so well.

The floating sardine reduction plant *Redondo* sank at her moorings at Parr-Richmond Terminals, Pt. San Pablo. She was operated by Jack Cardinalli and partners at Pt. San Pablo for a number of years. She had a capacity of about 10 tons per hour.

She was purchased several years ago by Dante Crivello and partners from the Redondo Fish Products Co., operated by Mr. Cardinalli, and processed fish under the name of McLaughlin Fisheries.

Fires caused a lot of damage in the industry during the year. The Benicia Food Products Co. cannery and reduction plant at Benicia, Calif., burned to the ground with an estimated loss of $300,000. Managing partner Vito B. Alioto has not announced whether a new plant would be erected at the site or not.

A fire which caused approximately $200,000 damage struck the plants of the Carmel Canning Co., and California Packing Corp., adjoining on Monterey's Cannery Row.

Major damage was done to the Carmel plant with the fire gutting the rear end of the building containing chilling plant, holding tanks, fish house and cutting rooms. Some 20 new cutting machines were destroyed or damaged.

Major loss suffered by Calpak was in the cafeteria. Rebuilding operations at both plants started at once.

Death struck a number of telling blows at leaders in the California fish canning industry. Alfred W. Eames, president of the California Packing Corp., chairman of the board of the Alaska Packers Association, and a vice-president of the National Canners Association died in October.

I. M. Isaacs, owner of Edible Fish Meals & Oils, first vice-president of the California Sardine Products Institute, and president of the San Francisco Sardine Association passed away in February.

In October George Harper, pioneer Monterey sardine canner, and president of the Monterey Canning Co. died at the age of 78.

ANCHOVIES

Most California packers agree that canned anchovies are strictly a scarcity item.

Early in 1948 anchovies were bought in fairly good quantity for export to the Philippines at $1 to $1.50 less per case than sardines. The island market was easily satisfied, however, and when the Philippine demand fell off there was little activity in canned anchovies.

Observers are pessimistic regarding anchovies as a regular pack. U. S. housewives would rather have sardines, and this appears to be true of foreign buyers, also.

FISH CANNING IN MEXICO

Pesquera Del Pacifico, S. de R. L., Ensenada, Lower California, Mexico's largest fish-canning plants at Sauzel and Cedros Island, processed a total of 325,441 cases of sardines, mackerel and abalone in 1948. Sauzel produced 276,157 cases; Cedros Island, 49,284 cases.

The Sauzel plant, located eight miles north of Ensenada, showed a decided gain over the past two years. In '47 the total production was 214,890 cases and in '46, 179,359 cases. The Cedros Island cannery, mostly canned abalone, showed a slight loss over '47, but was better than '46. The pack at Sauzel; in 1948:

Mackerel, 1s talls, 19,099 cases; fillets, 1s ovals, none; Sardines, ovals (T), 93,429; plain, 72/8 oz., 79,065; plain, 100/6 oz., 48,644; plain, 1s tall, 35,920 cases.

At Cedros Island; Abalone, 48/1s tall, 48,686; mackerel, 1s tall, 79; sardines, plain, 100/6 oz., 519.

During the year the company, owned by General A. L. Rodriguezm and managed by Francisco A. Morales, Jr., paid in wages and salaries, 1,324,885.87 pesos. Dividends to stockholders after taxes totaled 520,001.23 pesos. Thus, under the company's employee earning plan, workers benefitted over stockholders 4.49 pesos to 1 pesos.

The company furnishes schools and pays teachers; has made a present of a building to workers for union meetings; furnishes workers with frame house, light and water free; also free medical service and hospitalization, and supplies them with living at cost.

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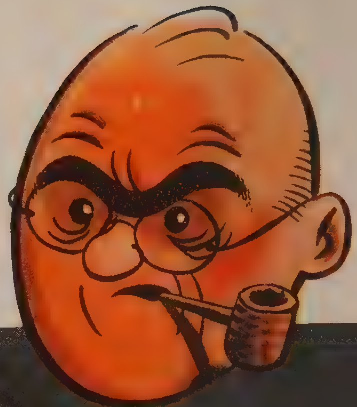
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1948 — PACIFIC CANNED SALMON PACKS AND VALUES — 1948

District	Red, Sockeye or Blueback		Pink		Chum		Coho or Silver		King, Chinook or Spring		Steelhead		TOTAL	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	**Cases**	**Value**
		$		$		$		$		$		$	$	$
Alaska	1,277,508	44,994,233	1,304,044	31,617,066	774,661	16,345,475	241,414	6,268,865	54,645	1,459,245	385	9,730	**4,010,612**	**100,694,614**
Washington	97,378	5,274,632	4,645	128,328	257,159	5,448,814	88,833	2,549,922	44,112	1,604,118			**492,127**	**15,006,510**
Oregon	1,250	56,084			22,817	433,704	40,363	1,175,538	227,599	8,954,556	19,977	615,000	**312,006**	**11,233,882**
California									12,267	396,305			**12,267**	**396,305**
Total U. S.	**1,734,091**	**50,324,949**	**1,303,689**	**31,745,394**	**1,054,637**	**22,227,993**	**370,610**	**9,994,325**	**338,623**	**12,414,224**	**20,362**	**624,73**	**4,827,012**	**127,331,311**
British Col.*	260,050	7,650,000	321,514	5,350,000	496,928	7,000,000	213,480	5,460,000	16.251	400,000	5,686	140,000	1,313,909	**26,000,000**
Grand Total	**1,994,141**	**57,974,949**	**1,630,203**	**37,095,394**	**1,551,565**	**29,227,993**	**584,090**	**15,454,325**	**354,874**	**12,814,224**	**26,048**	**764,730**	**6,140,921**	**153,331,311**

*British Columbia values are roughly approximate only.

PUGET SOUND PINK SALMON CATCH BY GEAR — 1935-1947

Year	Inside					Outside		**Total Number of Fish Caught**	Year
	Gill Net	Purse Seine	Reef Net	Troll	Indian Fishery*	Purse Seine	Troll		
1935	84,739	4,833,480	75,213	181		817,166	13,572	**5,824,351**	1935
1936	4	5,954	32			18,442	249	**24,681**	1936
1937	461,122	3,440,741	159,611	579	105,738	901,346	16,327	**5,085,464**	1937
1938	4,345	3,452	68			28		**7,893**	1938
1939	671,956	3,012,365	191,410	1,175	68,938	113,041	5,726	**4,064,611**	1939
1940	241	4,694	54			20,896	41	**25,926**	1940
1941	258,414	1,053,921	89.742		49,588	564,829	4,222	**2,020,716**	1941
1942	16	1,357	523			12,374	7	**14,277**	1942
1943	179,508	500,734	59,845	33	17,056	213,233	2.499	**972,908**	1943
1944	62	4,016	173			11	25	**4,287**	1944
1945	302,935	5,119,791	260,482	46	85,557	122,412	1,013	**5,892,236**	1945
1946	13	162	5		8	28	4	**220**	1946
1947	572,378	7,646,633	630,839	14	69,794	87,380	8,337	**9,015,375**	1947

* Includes salmon taken by drag seines, set nets, and traps, within the boundaries of Indian reservations.

Washington Landings of Columbia River Chinook Salmon by Gear, 1935-47

Year	INSIDE					OUTSIDE	**Total Pounds**	Year
	Dip Bag Nets	Gill Nets	① Drag Seines	① Set Nets	① Traps	Troll		
1935	438,666	3,739,789				41,395	**4,219,850**	1935
1936	248,661	3,406,003	14,717			332,778	**4,002,159**	1936
1937	405,452	4,511,640	45,116		98,890	197,890	**5,258,616**	1937
1938	209,472	2,998,807	485	1,652	76,826	116,726	**3,403,968**	1938
1939	159,824	3,637,342	99,644	6,737	90,485	180,261	**4,174,293**	1939
1940	249,130	3,329,010	147,168	11,077	80,274	255,169	**4,071,828**	1940
1941	639,363	5,650.453	108,330	15,235	69,654	415,694	**6,898,729**	1941
1942	405,882	5,210,030	63,882	34,874	164,880	389,099	**6,268,647**	1942
1943	200,241	2,681,167	103,637	9,366	178,929	122,662	**3,296,002**	1943
1944	192,302	4,281,899	116,307	13,673	119,658	288,992	**5,012,831**	1944
1945	123,419	3,790,420		30,283	72,361	321,465	**4,346,948**	1945
1946	505,679	3,747,052		7,664	133,643	578,521	**4,972,559**	1946
1947	710,878	4,556,296		16,922	152,378	489,047	**5,925,521**	1947

① Oregon gear—fish landed in Washington.

Washington State Landings of Columbia River Silver Salmon by Gear 1935-47

Year	INSIDE					OUTSIDE	**Total Pounds**	Year
	Dip Bag Nets	Gill Nets	① Drag Seins	① Set Nets	① Traps	Troll		
1935		640,339				484,883	**1,125,222**	1935
1936		340,427	528			600,489	**941,444**	1936
1937		501,795	865		46,398	407,752	**956.810**	1937
1938		748,082			41,364	870,029	**1,659,475**	1938
1939		404.093	1,769	121	35,576	697,324	**1,138,883**	1939
1940	138	348,490	3,644	92	21,380	652,139	**1,025,883**	1940
1941	164	249,168	1,203	20	14,047	277,640	**542,242**	1941
1942	591	149,454	879	159	20,581	361,743	**533,407**	1942
1943		142,885	6,796		44,718	297,945	**492,344**	1943
1944	84	337,410	12,199		55,730	588,991	**994,414**	1944
1945		473,922		534	37,341	378,383	**890,180**	1945
1946	77	273,476			43,891	486,258	**803,702**	1946
1947	264	332,364		17	72,014	834,669	**1,239,328**	1947

① Oregon gear—fish landed in Washington.

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PACIFIC CANNED SALMON PACKS AND VALUES 1939 TO 1948

Packs reduced to basis of full cases of 48 lbs. net. Values calculated from best data available.

Year	Alaska		Washington		Oregon		California		U. S. TOTAL		British Columbia		GRAND TOTAL		Yr.
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	**Cases**	**Value**	Cases	Value	**Cases**	**Value**	
		$		$		$		$		$		$		$	
1939	5,239,211	35,110,571	478,246	3,944,000	251,070	3,640,898	....	....	**5,971,527**	**42,695,469**	1,539,070	10,449,945	**7,510,597**	**53,145,414**	1939
1940	5,028,378	31,828,451	222,808	2,825,000	297,716	4,129,220	....	....	**5,548,902**	**38,782,681**	1,467,227	11,427,923	**7,016,129**	**50,209,908**	1940
1941	6,906,503	57,466,702	491,311	6,162,000	399,840	5,925,444	1,125	13,500	**7,798,779**	**69,567,646**	2,248,870	18,406,545	**10,047,649**	**87,974,191**	1941
1942	5,089,109	48,677,509	366,065	6,909,000	397,331	6,890,162	....	....	**5,852,515**	**62,476,671**	1,811,560	20,050,238	**7,664,075**	**82,526,909**	1942
1943	5,396,509	58,579,194	149,175	2,309,000	130,707	2,857,246	767	16,000	**5,677,158**	**63,761,440**	1,258,221	11,673,469	**6,935,379**	**75,434,909**	1943
1944	4,877,796	51,606,544	81,490	1,774,000	159,783	3,445,244	864	17,660	**5,119,943**	**56,843,448**	1,097,558	11,479,093	**6,217,521**	**68,322,541**	1944
1945	4,338,692	44,528,964	414,258	4,845,000	155,292	3,287,812	2,755	38,000	**4,913,335**	**52,699,776**	1,739,311	18,409,962	**6,652,646**	**71,109,738**	1945
1946	3,971,109	58,667,561	385,437	13,020,000	206,563	7,165,645	5,034	153,000	**4,568,149**	**79,006,206**	1,348,138	17,532,462	**5,916,287**	**96,538,668**	1946
1947	4,302,466	91,297,885	957,429	21,420,000	338,852	11,133,690	13,917	513,000	**5,612,664**	**124,364,575**	1,505,157	24,900,000	**7,117,379**	**149,264,575**	1947
1948	4,010,612	100,694,614	492,127	15,006,510	312,006	11,233,882	12,267	396,305	**4,827,012**	**127,331,311**	1,313,909	26,000,000	**6,140,921**	**153,331,311**	1948
Avg.	**4,916,038**	**57,845,999**	**405,788**	**7,855,451**	**264,916**	**5,970,924**	**3,672**	**114,746**	**5,590,952**	**71,786,922**	**1,535,734**	**17,032,963**	**7,123,812**	**88,819,816**	**Avg.**

COLUMBIA RIVER CANNED SALMON PACK, 1888 - 1948

Salmon canning on the Columbia River commenced in 1866, with a pack of about 4,000 cases valued at $64,000; but no segregation by species is available prior to 1889. Production increased rapidly to a peak of 629,400 cases in 1883, valued at $3,147,000; then fell to 356,000, valued at $2,124,000, in 1887: the average output for intervening years being 351,091 cases, valued at $2,066,227.

The "average" figures at bottom of table are for ten years prior to 1948.

Year	Number of Canneries	Chinook		Blueback		Silverside		Chum or Keta		Steelhead Trout		Total		Year
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	28	....	....	....	....	....	....	....	....	....	....	372,477	$2,234,862	1888
1889	21	266,697	$1,600,182	17,797	$101,051	....	....	....	....	25,391	$108,587	309,885	1,809,820	1889
1890	21	335,604	1,946,087	57,345	290,069	....	....	....	....	42,825	171,300	435,774	2,407,456	1890
1891	22	353,907	2,038,566	15,482	284,242	....	....	....	....	29,564	118,156	398,953	2,440,964	1891
1892	24	344,267	1,996,388	66,547	372,909	4,176	$20,880	....	....	72,348	288,892	487,338	2,679,069	1892
1893	24	288,773	1,559,374	30,459	152,295	29,107	116,428	2,311	$6,933	65,226	260,904	415,876	2,095,934	1893
1894	24	351,106	1,896,976	43,814	224,430	42,758	171,032	....	....	52,422	209,688	490,100	2,501,126	1894
1895	24	444,909	2,428,658	18,015	86,523	99,601	329,683	22,493	62,591	49,678	203,542	634,696	3,110,997	1895
1896	24	370,943	1,804,511	16,983	81,518	44,108	141,145	....	....	49,633	198,652	481,697	2,261,826	1896
1897	22	432,753	1,804,221	12,972	51,888	60,850	197,762	....	....	46,146	165,440	552,721	2,219,311	1897
1898	23	329,566	1,490,394	66,670	300,015	65,431	222,465	....	....	26,277	60,352	487,933	2,073,226	1898
1899	17	255,824	1,458,175	23,969	134,723	29,608	112,055	11,379	33,836	11,994	39,186	332,774	1,777,975	1899
1900	16	262,392	1,821,258	13,162	92,184	44,925	202,163	17,696	63,706	20,597	102,985	358,772	2,282,296	1900
1901	..	....	....	....	....	....	....	....	....	....	....	390,183	1,942,660	1901
1902	14	270,580	1,428,743	17,037	86,465	10,532	44,732	10,401	41,604	8,593	42,965	317,143	1,644,509	1902
1903	16	301,762	1,610,614	8,383	42,867	12,181	49,869	10,000	37,500	7,251	36,255	339,577	1,777,105	1903
1904	20	320,378	1,944,690	12,911	78,048	31,254	118,357	20,693	52,691	9,868	48,892	395,104	2,242,678	1904
1905	19	327,106	1,962,636	7,768	46,608	26,826	114,011	25,751	65,206	9,822	49,110	397,273	2,237,571	1905
1906	19	311,334	1,868,007	7,816	54,712	41,446	124,338	27,802	69,505	6,500	32,500	394,898	2,149,062	1906
1907	19	258,433	....	5,504	....	31,757	....	22,556	....	5,921	....	324,171	1,763,490	1907
1908	14	210,096	....	8,581	....	31,432	....	16,884	....	10,726	....	253,341	1,380,708	1908
1909	15	162,131	1,203,546	27,908	214,561	42,178	185,070	24,542	57,115	17,283	99,796	274,087	1,760,088	1909
1910	15	244,285	1,882,137	6,234	34,287	68,922	363,688	66,538	232,883	5,436	31,203	391,415	2,544,198	1910
1911	15	405,862	2,204,185	5,988	47,904	79,416	549,478	53,471	203,198	8,594	47,399	543,331	3,052,164	1911
1912	15	220,317	1,988,526	8,210	85,384	31,842	177,248	18,699	46,590	6,958	22,108	285,666	2,319,856	1912
1913	15	192,116	1,664,670	11,152	93,677	40,969	175,412	13,303	29,486	8,939	49,142	266,479	2,012,387	1913
1914	17	289,464	2,573,502	35,311	376,024	69,769	380,666	49,285	205,541	10,792	59,356	454,621	3,595,989	1914
1915	19	406,486	3,694,361	5,459	56,707	33,336	173,234	86,530	251,632	26,723	129,358	558,534	4,305,292	1915
1916	20	395,166	3,572,203	3,790	27,288	52,084	335,114	77,766	307,483	18,999	118,987	547,805	4,361,075	1916
1917	20	403,637	5,023,529	7,968	111,552	64,299	700,680	53,659	386,596	23,783	292,538	555,218	6,530,939	1917
1918	20	400,952	5,222,983	37,833	605,328	98,145	1,072,843	29,846	215,669	24,605	350,071	591,381	7,466,924	1918
1919	21	392,125	5,455,550	7,268	145,360	90,728	1,142,767	75,493	541,989	14,414	205,254	580,028	7,490,920	1919
1920	22	420,467	5,661,580	2,617	62,808	27,024	257,806	18,792	99,564	12,645	116,859	481,545	6,198,617	1920
1921	20	267,582	3,761,321	6,045	120,900	34,381	233,372	4,821	19,791	10,142	68,266	323,241	4,203,649	1921
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,935	8,844	47,130	24,920	186,675	392,174	5,206,993	1922
1923	23	289,586	4,967,657	38,309	766,180	101,554	673,954	25,508	135,168	25,968	187,965	480,925	6,730,924	1923
1924	22	293,716	4,508,236	7,366	129,840	112,308	992,865	57,748	303,356	29,734	285,107	500,872	6,219,404	1924
1925	21	350,809	5,423,129	5,650	106,220	113,554	1,488,855	55,812	272,398	14,637	177,866	540,452	7,468,468	1925
1926	21	295,302	4,744,131	21,736	434,720	97,142	1,027,597	32,853	181,216	32,690	356,418	479,723	6,744,064	1926
1927	22	339,446	5,559,202	6,887	147,378	74,879	585,816	68,449	425,240	30,148	311,070	519,809	7,028,705	1927
1928	24	251,404	4,355,218	4,814	100,131	49,136	478,355	124,953	747,619	16,339	222,139	446,646	5,903,462	1928
1929	21	242,938	4,234,214	10,072	181,296	90,684	917,561	54,619	314,928	23,804	257,025	422,117	5,905,024	1929
1930	21	281,346	4,092,810	9,823	194,460	110,430	1,156,042	11,371	43,324	16,535	171,541	429,505	5,658,177	1930
1931	20	294,798	3,754,929	4,125	66,000	39,268	247,878	3,518	11,754	11,990	110,429	353,699	4,191,000	1931
1932	15	216,511	2,023,390	2,795	33,540	46,492	280,853	17,261	44,879	13,132	91,924	296,191	2,474,586	1932
1933	14	251,157	2,719,303	6,921	96,894	36,430	263,190	24,398	107,351	17,805	142,440	336,711	3,329,178	1933
1934	13	251,068	2,630,152	6,869	82,428	65,428	536,731	24,455	92,608	14,901	121,000	362,721	3,462,919	1934
1935	10	205,870	2,479,450	1,302	17,619	95,184	725,868	15,495	59,499	14,888	122,846	332,739	3,405,282	1935
1936	11	220,188	2,964,058	9,837	137,718	36,541	303,263	30,597	110,149	19,282	317,867	316,445	3,833,055	1936
1937	11	291,343	4,256,819	7,526	126,436	69,801	725,996	30,592	138,309	17,568	189,734	416,830	5,437,294	1937
1938	10	173,892	2,707,267	13,889	260,369	67,257	630,364	37,704	143,275	15,248	152,480	307,990	3,893,755	1938
1939	10	207,595	3,336,206	5,301	102,359	69,082	730,549	15,201	75,416	25,293	320,025	322,472	4,666,141	1939
1940	11	244,570	3,785,681	23,974	471,530	59,737	623,681	25,282	125,420	33,436	373,514	386,999	5,379,826	1940
1941	11	328,609	5,558,254	33,070	661,400	35,727	481,834	83,144	572,994	33,162	453,502	513,712	7,727,984	1941
1942	12	274,750	5,692,929	23,256	625,230	26,541	497,070	118,051	911,538	21,803	429,678	464,401	8,156,445	1942
1943	11	130,373	3,094,505	2,880	77,586	5,707	61,065	12,439	112,421	16,261	323,874	167,660	3,669,451	1943
1944	10	163,047	3,714,591	758	20,342	12,210	137,072	1,525	11,590	19,222	375,838	196,762	4,259,433	1944
1945	8	132,014	3,095,228	112	3,001	22,154	244,060	1,032	8,848	19,314	363,068	*175,670	3,723,456	1945
1946	11	159,872	5,940,740	9,726	369,588	6,883	206,490	†15,617	247,392	17,373	510,720	†209,471	7,274,930	1946
1947	10	250,318	8,613,000	15,079	664,000	42,789	1,278,000	17,121	252,000	21,999	650,000	347,306	11,457,000	1947
1948	12	235,310	9,342,000	3,339	147,000	39,425	1,099,000	26,201	498,000	19,977	615,000	324,242	11,701,000	1948
Avg.	10	**206,504**	**4,553,840**	**12,804**	**325,540**	**34,808**	**489,018**	**32,711**	**246,089**	**22,311**	**395,269**	**309,244**	**6,020,842**	**Avg.**

*Includes 1,044 cases of Pinks canned from Puget Sound fish.

†Includes 1,873 cases of Pinks canned from Puget Sound fish.

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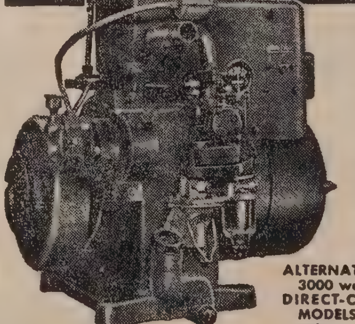

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Pack of Canned Salmon in Alaska, by Districts -- 1887 to 1948

Year	SOUTHEAST ALASKA							CENTRAL ALASKA							WESTERN ALASKA									
	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases	Number Plants Operated	**Total Cases**	Year
1887	5	....	....	....	....	....	31,462	2	....	....	....	....	....	102,515	3	....	....	....	....	....	72,700	10	**206,677**	1887
1888	6	....	....	....	....	....	81,128	6	....	....	....	....	....	241,101	4	....	....	....	....	....	89,886	16	**412,115**	1888
1889	12	....	....	....	....	....	141,760	21	....	....	....	....	....	461,451	4	....	....	....	....	....	115,985	37	**719,196**	1889
1890	12	....	....	....	....	....	142,901	19	....	....	....	....	....	421,300	4	....	....	....	....	....	118,390	35	**682,519**	1890
1891	11	....	....	....	....	....	156,615	14	....	....	....	....	....	511,367	5	....	....	....	....	....	133,418	30	**801,400**	1891
1892	7	....	....	....	....	....	115,722	6	....	....	....	....	....	295,496	2	....	....	....	....	....	63,499	15	**474,717**	1892
1893	8	....	....	....	....	....	136,053	11	....	....	....	....	....	399,815	3	....	....	....	....	....	107,786	22	**643,654**	1893
1894	7	....	....	....	....	....	142,544	10	....	....	....	....	....	435,052	4	....	....	....	....	....	108,844	21	**686,440**	1894
1895	7	....	....	....	....	....	148,476	10	....	....	....	....	....	327,919	6	....	....	....	....	....	150,135	23	**626,530**	1895
1896	9	138,792	91,215	452	28,135	3,787	262,381	12	448,882	20,771	....	8,882	7,455	485,990	8	....	....	....	....	....	218,336	29	**966,707**	1896
1897	9	97,223	140,506	1,396	26,769	5,973	271,867	13	356,428	14,082	....	6,669	5,720	382,899	7	234,930	3,123	....	10,119	6,140	254,312	29	**909,078**	1897
1898	9	116,924	89,718	4,622	38,011	2,110	251,385	14	355,857	19,681	85	13,495	5,891	395,009	7	310,160	....	477	3,205	4,861	318,703	30	**965,097**	1898
1899	9	134,752	138,329	1,000	28,587	7,551	310,219	14	327,708	10,830	....	10,489	7,068	356,095	9	401,794	....	931	326	8,781	411,832	32	**1,078,146**	1899
1900	16	167,787	217,231	22,061	36,743	12,817	456,639	14	456,604	12,314	132	11,427	11,746	492,223	12	573,015	2,477	7,819	2,814	13,152	599,277	42	**1,548,139**	1900
1901	21	....	....	....	....	....	735,449	13	....	....	....	....	....	562,142	21	....	....	....	....	....	719,213	55	**2,016,804**	1901
1902	26	....	....	....	....	....	906,676	12	....	....	....	....	....	583,690	26	....	....	....	....	....	1,046,458	64	**2,536,824**	1902
1903	21	....	....	....	....	....	642,305	12	....	....	....	....	....	417,175	27	....	....	....	....	....	1,186,730	60	**2,246,210**	1903
1904	12	....	....	....	....	....	569,003	11	....	....	....	....	....	499,485	32	....	....	....	....	....	885,268	55	**1,953,756**	1904
1905	13	207,375	142,008	37,685	41,079	5,460	433,607	9	345,575	3,235	....	16,518	6,427	371,755	25	1,021,478	23,354	4,287	9,797	30,238	1,089,154	47	**1,894,516**	1905
1906	20	250,567	326,713	131,405	84,149	2,396	795,230	8	451,659	3,188	....	10,316	7,861	473,024	19	798,504	19,866	123,407	16,278	20,680	978,735	47	**2,246,989**	1906
1907	22	177,149	542,268	140,392	58,632	1,289	919,730	8	482,968	10,255	....	15,258	14,355	522,836	18	657,687	18,244	44,025	11,784	27,794	759,534	48	**2,202,100**	1907
1908	23	198,366	592,638	180,204	48,963	2,552	1,022,723	8	377,101	30,661	....	11,543	6,416	425,721	19	1,087,211	20,834	38,309	8,426	14,824	1,169,604	50	**2,618,048**	1908
1909	19	280,542	455,999	83,001	39,920	857	860,319	8	358,285	5,581	....	10,275	16,913	391,054	18	1,074,667	3,293	37,711	6,361	30,264	1,152,296	45	**2,403,669**	1909
1910	23	282,265	494,363	231,735	82,620	402	1,091,385	10	364,875	31,797	131	19,928	15,786	432,517	19	825,447	31,348	22,352	11,641	24,087	914,138	52	**2,438,777**	1910
1911	32	238,895	969,866	290,843	100,793	1,441	1,601,838	11	412,647	24,143	2,008	17,326	15,862	471,986	21	669,163	27,347	10,969	11,585	28,075	747,139	64	**2,820,963**	1911
1912	51	254,851	1,053,847	589,578	134,914	6,607	2,039,777	14	422,347	136,891	29,591	19,782	14,198	622,809	22	1,227,060	114,247	19,359	15,088	21,789	1,397,543	87	**4,060,129**	1912
1913	42	190,685	1,299,400	254,689	58,071	1,006	1,803,851	14	364,253	49,299	5,038	13,284	15,393	447,267	23	1,419,381	54,217	7,927	6,022	17,768	1,505,315	79	**3,756,433**	1913
1914	45	294,842	872,504	597,435	112,163	12,087	1,889,031	14	395,110	195,830	17,693	36,739	11,132	656,504	23	1,511,622	29,489	47,350	8,890	24,946	1,622,297	82	**4,167,832**	1914
1915	46	229,709	1,820,171	375,260	90,161	25,135	2,540,436	17	500,000	43,951	39,404	26,062	22,978	632,395	23	1,192,248	6,251	69,744	10,347	37,581	1,316,171	86	**4,489,002**	1915
1916	54	182,075	1,335,291	505,405	182,405	18,482	2,223,658	19	572,096	371,845	64,320	55,298	22,160	1,085,719	27	1,365,271	46,410	145,513	27,481	25,537	1,610,212	100	**4,919,589**	1916
1917	60	202,951	2,149,075	750,187	152,538	29,657	3,284,408	26	725,925	137,955	86,764	36,065	19,236	1,005,945	29	1,556,005	11,436	40,762	5,105	18,659	1,631,967	113	**5,922,320**	1917
1918	75	226,108	2,034,997	954,498	152,689	17,248	3,385 540	29	662,829	358,491	313,196	47,904	21,818	1,404,238	30	1,729,622	24,724	98,965	15,979	18,301	1,887,591	134	**6,677,369**	1918
1919	75	240,208	1,521,897	1,146,943	169,300	30,016	3,108,364	30	437,341	107,924	163,530	54,596	12,075	775,466	28	526,794	27,613	37,989	6,242	109,642	707,280	133	**4,591,110**	1919
1920	80	199,829	1,026,862	830,538	112,178	32,869	2,202,276	35	533,122	510,350	148,122	67,744	20,417	1,279,755	28	742,829	76,222	44,048	12,389	37,990	913,478	143	**4,395,509**	1920
1921	30	105,084	416,958	182,272	90,845	9,034	804,193	27	596,200	13,116	28,305	11,425	10,225	659,271	27	1,057,510	10,397	37,029	7,513	29,060	1,141,509	84	**2,604,973**	1921
1922	57	121,652	1,313,280	425,947	128,023	5,777	1,994,679	36	567,576	331,005	88,321	36,623	8,930	1,032,455	28	1,386,169	13,261	48,228	9,666	16,897	1,474,221	121	**4,501,355**	1922
1923	67	178,962	2,257,768	434,490	129,990	12,857	3,014,067	39	441,774	197,291	72,821	32,940	11,537	756,363	30	1,257,594	77	19,834	822	14,583	1,292,910	136	**5,063,340**	1923
1924	65	192,806	1,686,884	799,215	110,002	8,259	2,797,166	38	442,876	892,667	192,901	68,883	10,593	1,607,920	31	814,042	33,517	35,067	2,322	14,889	899,837	134	**5,305,923**	1924
1925	62	151,140	1,701,849	835,599	94,539	12,493	2,795,611	37	364,721	402,801	199,797	68,267	19,289	1,054,875	30	549,429	590	29,999	1,393	18,992	600,403	129	**4,450,898**	1925
1926	61	173,891	2,158,699	618,397	96,389	10,679	3,058,055	43	630,505	1,144,180	243,808	104,309	23,683	2,146,485	28	1,352,691	35,470	40,238	1,829	18,114	1,448,342	132	**6,652,882**	1926
1927	62	115,664	581,728	224,696	114,331	9,131	1,045,823	47	320,159	833,028	253,410	138,243	42,948	1,587,788	29	884,740	....	29,262	55	18,404	932,461	138	**3,566,072**	1927
1928	60	106,793	2,137,796	566,689	145,323	5,596	2,962,197	62	431,924	643,816	378,499	152,066	32,567	1,638,872	29	1,405,344	3,852	46,316	497	13,032	1,469,041	151	**6,070,110**	1928
1929	59	161,580	1,541,463	290,742	97,850	6,982	2,098,617	70	455,997	1,028,790	498,873	68,538	36,526	2,088,544	30	1,075,473	253	71,261	5,862	30,232	1,183,081	159	**5,370,242**	1929
1930	57	216,743	2,296,270	283,553	155,844	10,894	2,963,304	68	270,310	839,751	281,111	170,741	32,123	1,594,036	27	361,734	14,631	31,336	3,403	20,543	431,647	152	**4,983,937**	1930
1931	41	148,485	2,038,388	277,225	88,841	14,926	2,567,865	49	439,572	940,124	193,131	81,275	27,567	1,681,669	25	1,107,725	....	66,553	92	8,631	1,183,001	115	**5,432,535**	1931
1932	31	140,356	1,380,093	582,290	88,293	23,637	2,214,669	34	659,539	720,893	145,660	60,363	32,317	1,618,772	22	1,304,832	15,587	93,178	695	12,755	1,427,047	87	**5,260,488**	1032
1933	38	81,122	1,477,608	425,869	95,629	8,130	2,088,358	31	486,528	703,696	207,363	64,548	23,792	1,485,927	23	1,614,721	2,139	25,013	1,456	9,084	1,652,413	92	**5,226,698**	1933
1934	47	104,413	2,622,186	393,904	159,509	15,606	3,295,618	45	707,754	1,198,457	307,649	74,832	27,005	2,315,697	22	1,813,835	1,959	33,502	1,219	8,756	1,859,271	114	**7,470,586**	1934
1935	46	159,506	2,209,373	541,152	141,501	11,496	3,063,028	44	391,088	1,045,155	302,011	47,198	24,338	1,809,790	9	272,581	....	9,567	219	641	283,008	99	**5,155,826**	1935
1936	46	219,531	2,959,774	784,455	136,043	22,105	4,121,908	46	839,243	1,598,585	295,956	80,608	31,820	2,846,212	24	1,423,781	30,911	26,572	1,581	3,983	1,486,828	116	**8,454,948**	1936
1937	45	165,170	2,138,264	503,235	86,912	30,613	2,924,194	47	459,399	1,480,658	190,425	42,028	31,234	2,209,744	24	1,476,585	376	35,454	138	7,547	1,520,100	116	**6,654,038**	1937
1938	39	189,880	1,886,104	473,619	140,791	16,339	2,706,733	42	484,518	1,336,000	253,905	75,596	20,146	2,170,165	17	1,848,725	....	59,335	345	6,241	1,914,646	98	**6,791,544**	1938
1939	48	195,907	1,474,269	293,316	65,906	2,364	2,031,762	47	657,198	1,034,623	237,148	37,250	21,023	1,987,242	24	1,118,233	627	95,948	....	5,399	1,220,207	119	**5,239,211**	1939
1940	46	125,462	1,452,037	484,476	155,577	1,539	2,219,091	42	384,266	1,441,266	343,072	126,878	18,359	2,314,475	11	443,653	14,088	32,991	1,675	2,405	494,812	99	**5,028,378**	1940
1941	47	137,861	3,631,491	321,118	193,751	1,812	4,286,033	44	413,658	1,005,029	333,618	159,023	30,825	1,942,153	19	613,369	129	55,771	3,439	5,609	678,317	105	**6,906,503**	1941
1942	47	121,083	1,758,741	597,373	189,210	2,033	2,668.779	44	352,475	1,051,359	328,860	180,698	34,916	1,948,308	7	438,111	8,550	16,556	2,629	6,178	472,024	98	**5,089,109**	1942
1943	34	85,313	1,042,610	672,359	92,245	1,868	1,894,395	34	582,287	1,277,915	167,809	66,311	37,421	2,131,743	14	1,314,575	1,532	42,410	178	11,676	1,370,371	81	**5,396,509**	1943
1944	38	131,580	1,081,334	655,188	88,380	1,765	1,958,247	45	461,718	1,002,056	286,498	96,255	29,718	1,876,245	13	987,459	3,932	44,039	2,418	5,456	1,043,304	94	**4,877,796**	1944
1945	41	129,514	1,039,521	265,845	107,425	2,582	1,544,887	43	434,872	1,198,665	331,654	85,506	30,041	2,080,738	8	609,132	1,623	92,551	3,103	9,086	715,495	92	**4,341,120**	1945
1946	41	59,029	999,443	321,037	94,074	1,612	1,475,195	48	350,728	1,053,605	257,909	96,301	25.356	1,783,899	20	656,141	4,073	38,209	2,686	10,906	712,015	108	**3,971,109**	1946
1947	40	56,032	680.693	260.666	72.434	4.019	1,073.844	47	470,056	1,034.475	196,731	74.388	34,790	1,810,430	21	1,350,151	8.449	42,814	1,893	14,885	1,418.192	107	**4,302.466**	1947
1948	39	39,317	683,972	403,959	165,033	5,973	1,298,254	57	318,638	616,822	291,977	69,259	34,774	1,331,470	24	1,277,508	3,250	78,725	7,507	13,898	1,380,888	120	**4,010,612**	1948
Avg.	**42**	**108,109**	**1,384,411**	**427,533**	**122,403**	**2,556**	**2,045,048**	**45**	**442,589**	**1,071,581**	**277,527**	**99,186**	**29,722**	**1,920,670**	**16**	**880,833**	**4,625**	**54,001**	**2,552**	**8,549**	**950,562**	**102**	**4,916,281**	**Avg.**

NOTE:—Figures for the various species in each district not available prior to 1896, nor from 1901 to 1904, inclusive. District totals for years prior to 1887 may be found in issues of the YEARBOOK prior to 1943. "Average" is for ten years through 1948.

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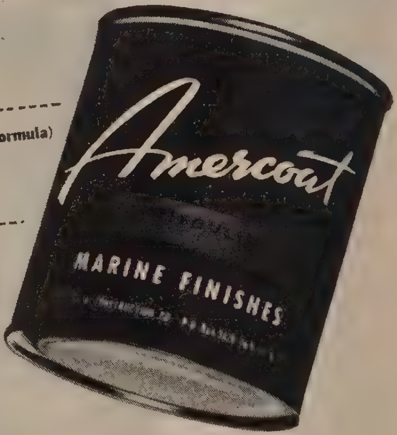

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Crab canning on the coast of Pacific North America in 1948 ran far ahead of any previous season.

The pack of 185,000 cases was more than double that of any previous year, with the single exception of 1947, when the 108,000-case pack stood as the all-time high.

Firm demand at favorable prices, coupled with an abundant supply of exceptionally fine crabs, in 1948 enabled the Pacific crab canning industry to pack 184,953 cases of halves, by far the largest production in the history of this business.

The best previous record was set in 1947, with a pack of 108,601 cases. Prior to that year the best pack was just under 81,000 cases—less than half the 1948 figure.

Washington Pack Is Far In the Lead on Pacific

The State of Washington continued far in the lead among crab canning districts, packing 97,056 cases, as compared with its previous record of 54,756 cases.

Oregon increased its production to 56,910 cases, up from 34,582.

Greatest percentage gain was made in Alaska, where the pack of 22,973 cases in 1948 was more than double the 10,188 cases packed the year before.

California cut its packing somewhat; and British Columbia increased its small yield to 3,500 cases.

1948 Crab Price Generally $2.50 Per Dozen; 10c Per Pound

Although there were district differences, the 1948 crab price generally stood at $2.50 per dozen, ocean run, or 10c per lb. as the season opened.

In California these prices were sometimes exceeded, as the fishermen there had access to the important fresh market in San Francisco.

Crab canning in California was handicapped by the insistence of state officials upon strict enforcement of a California law which prescribes a process cook which the industry has found tends to impair quality of the product, while not at all necessary to its proper sterilization.

A definite result of this handicap was the curtailment of California canned crab production.

1948 — PACIFIC CANNED CRAB — 1948

COMPANY	CANNERY LOCATION	Cases 48 ½-Lb. Flats
ALASKA		
Cronk Brothers	Cordova	443
North Pacific Packing Co	Cordova	250
Ocean Fresh Seafoods Co	Cordova	1,067
Pacific Exploration Co	Bering Sea	†18,235
Parks Co., H. M.	Cordova	1,792
Tapley Packing Co	Cordova	1,186
Total Alaska		**22,973**
WASHINGTON		
Bodey, G. C.	Ocean City	1,100
Burk Packing Co., P. J.	Bellingham	2,387
Chinook Packing Co	Chinook	3,023
Columbia River Packers Association	Aberdeen	4,459
Dungeness Crab, Inc.	Westport	7,996
Haines Oyster Co	Seattle	4,240
Kaakinen Fish Co	Westport	‡8,868
Keystone Packing Co	Ilwaco	310
Nelson Crab & Oyster Co	Tokeland	8,500
Paragon Packing Co	Hoquiam	2,114
South Bend Oyster Co	South Bend	12,790
	Hoquiam	12,619
Strand Fisheries	Hoquiam	3,500
Tokeland Crab & Fish Co	Tokeland	4,753
Washington Fish Co	Aberdeen	4,631
West Coast Fish Co	Aberdeen	4,665
Whiz Fish Products Co	Hoquiam	7,955
	La Conner	3,146
Total Washington		**97,056**
OREGON		
Columbia River Packers Association	Astoria	30,408
Del Mar Canning Co	Warrenton	90
Hallmark Fisheries	Charleston	8,810
New England Fish Co	Newport	324
Point Adams Packing Co	Hammond	12,635
Reedsport Packing Co	Reedsport	1,540
Seaside Clam Co	Warrenton	250
Tillamook Bay Fish & Crab Co	Bay City	400
Yaquina Bay Fish Co	Newport	2,453
Total Oregon		**56,910**
CALIFORNIA	All Points	3,014
United States Pacific Total		**179,953**
BRITISH COLUMBIA		
Queen Charlotte Canners, Ltd	Naden Harbor	3,500
Tulloch Fisheries	Vancouver	1,500
Total British Columbia		**5,000**
GRAND TOTAL, Pacific North America		**184,953**

† King Crab. ‡ Includes 217 cases of 48 Quarter-pound cans, counted as 109 cases of halves.

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PACIFIC CANNED CRAB — 1931 TO 1948

(SHOWN IN STANDARD CASES OF 48 HALF-POUND CANS)

Year	Alaska	Washington	Oregon	California	American Total		British Columbia	North American Total	Year
					Cases	Value			
1948.....	22,973	97,056	56,910	3,500	179,953	$4,138,919	3,500	184,953	1948
1947.....	10,158	54,756	34,582	6,624	106,120	2,037,904	2,481	108,601	1947
1946.....	15,792	19,263	29,106	15,194	79,356	2,271,968	1,455	80,811	1946
1945.....	15,760	9,070	896	....	25,726	398,898	....	25,726	1945
1944.....	13,376	16,524	10,968	....	40,868	653,888	385	41,253	1944
1943.....	9,386	18,332	20,874	....	48,592	782,173	....	48,592	1943
1942.....	7,766	26,052	45,338	....	79,156	1,266,496	885	80,041	1942
1941.....	11,126	13,232	13,346	....	37,704	311,822	3,386	41,090	1941
1940.....	12,828	8,634	3,792	....	25,254	178,021	3,794	29,048	1940
1939.....	11,978	2,716	8,406	....	23,100	184,254	2,049	25,149	1939
1938.....	....	....	....	....	27,016	258,375	2,157	29,173	1938
1937.....	....	....	....	....	27,394	269,699	1,546	28,940	1937
1936.....	....	....	....	....	14,758	124,925	....	14,758	1936
1935.....	....	....	....	....	13,840	106,832	....	13,840	1935
1934.....	....	....	....	....	22,869	184,052	....	22,869	1934
1933.....	....	....	....	....	17,564	134,330	....	17,564	1933
1932.....	....	....	....	....	9,314	73,112	....	9,314	1932
1931.....	....	....	....	....	263	2,104	....	263	1931

King Crab Packed by U. S. Factory Ship As Experiment

Included in the figures given are 18,235 cases of King crab, canned by the federally-owned factory ship *Pacific Explorer,* operated under contract by the Pacific Exploration Co.

This crab was canned in Bering Sea as a test to determine not only the abundance of the population there but also the feasibility of an American floating crab cannery.

The King crab proved of high quality and found a ready market in the Eastern states at price levels slightly above those commanded by Pacific crab.

Two Principal Canadian Crab Canning Operations

The Queen Charlotte Islands dominated the canned crab trade in British Columbia in 1948, Queen Charlotte Canners, Ltd., accounting for the bulk of the pack — about 5000 cases.

The packing was done at a Naden Harbor plant which normally handles razor clams as well as crabs, the Fishermen's Co-operative being interested in the clams and the company in the crabs. But last year no razor clams were packed anywhere in British Columbia.

About 800,000 crabs are estimated to have been caught in British Columbia waters for the fresh trade, mostly in the Boundary Bay region. Companies engaged in this were White Rock Shellfish Co., H. M. Fraser, Vancouver Shellfish Co., Boundary Bay Seafoods and B. C. Packers. Crab traps were also maintained at Canoe Pass and on Quatsino Sound.

Tulloch Fisheries, Ltd., Vancouver, was the only company engaged in canning crabs on a substantial scale in the southern part of British Columbia. Its output was about 1500 cases.

Some crabs were sold fresh in the United States market.

Early Crabs of 1948 Exceptional in Quality

A firm market, which had long been bare of primary offerings, sent the crab fishermen to sea early and under favorable circumstances as 1948 opened.

Washington Crab Landings by Districts

Year	Puget Sound	Grays Harbor	Willapa Harbor	Columbia River	Total
	Pounds①	Pounds②	Pounds②	Pounds②	Pounds
1936.......	441,892	451,890	865,194	....	**1,758,976**
1937.......	500,104	643,234	1,441,352	3,428	**2,588,118**
1938.......	521,180	387,728	1,831,716	....	**2,740,624**
1939.......	441,122	620,004	2,153,496	....	**3,214,622**
1940.......	428,692	1,134,182	3,341,754	....	**4,904,628**
1941.......	514,184	1,293,222	3,968,152	206,984	**5,982,542**
1942.......	989,186	2,262,696	2,134,818	249,304	**5,636,004**
1943.......	1,267,024	2,732,090	1,052,550	56,660	**5,108,324**
1944.......	1,790,118	2,622,316	1,529,196	83,326	**6,024,956**
1945.......	1,993,398	1,961,978	1,439,204	4,838	**5,399,418**
1946.......	2,284,810	3,674,536	2,022,004	121,335	**8,102,685**
1947.......	1,512,808	6,599,380	3,822,288	38,184	**11,972,660**
1948.......	1,239,621	9,421,488	6,638,752	70,272	**17,420,133**

①Conversion: 22 lbs. per doz. ②Conversion: 24 lbs. per doz.

The crabs they caught were perhaps the finest in the recollection of men who have followed crab canning since it began on the Pacific Coast. They were clean and heavy, for reasons not well understood; and this condition prevailed all along the coast.

Throughout the season fishing remained good, and the market fair.

The flush prices necessarily faded as the remarkable production made itself felt, but the decline was never precipitate, and did not become disastrous.

Progress Is Reported In Various Technical Points

Crab canning came in for increased technological study during 1948, and the industry late in the year established a project for testing the effect of several factors on the cut-out weight of canned crab, placing the undertaking in the hands of a committee charged with determining:

1. The effect of different packing processes, and notably the time and temperature of the sterilizing cook, upon the cut-out weight;

2. Possible seasonal and regional variations in the density of crab meat, as reflected in the relationship between weight of fill and cut-out weight.

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Pacific razor clam canning was restricted severely in 1948 by the high price bid for clams to be used as crab bait in Washington. Demand resulting from the most active crab canning season in history drastically limited clam packing.

Alaska operators likewise were checkmated, this time by a cannery workers dispute, which long delayed the opening of operations.

Razor clam production was at an all-time low in 1948, not because of scarcity of clams, not because of market disaster, not even because of labor-management disputes—but essentially because of the competitive situation created by the demand for razor clams as crab bait.

The 1948 razor clam season produced a pack of only 45,357 cases in Washington and Alaska combined. The record reveals no annual aggregate so low.

Hardshell clam canning also was near the all-time bottom, but edged narrowly above the 1947 pack. Reported total for 1948 was only 15,706 cases in Washington, with none packed in Alaska.

Greatest-Ever Crab Season Drains Away Razor Clams

The 1948 razor clam season in Washington opened in the midst of the most active crab season in history. Crabs were big and abundant and the market active and avid. Clams were needed for bait, and bidding for the digs swiftly ran the price to levels at which the canners simply could not compete.

The overwhelming demand for clams for bait came during a Washington season when the potential yield of clams had been reduced by a lowered quota.

Basing its determination upon biological data, the Washington department of fisheries reduced the 1948 clam quota to 1,200,000 lbs., down 350,000 lbs. from the year before. The commercial quota for 1948 was divided among the beaches as follows: Copalis, 700,000 lbs.; Graylands, 200,000 lbs.; Long Beach, 300,000 lbs.

1948 – PACIFIC CANNED CLAM PACK – 1948

RAZOR CLAMS

Company	Cannery Location	1-Lb. Talls 48s	No. 1 E. O. 48s	½-Lb. Flats 48s	No. 10 6s	Total Cases
ALASKA						
Aurora Packing Co	Cordova			862		**862**
Gilbert Packing Co	Cordova			5,791		**5,791**
Halferty & Co., G. P.	Cordova			15,926		**15,926**
Mainland Fisheries, Inc	Kukak Bay			1,432		**1,432**
Ocean-Fresh Seafoods Co	Cordova			730		**730**
H. M. Park's Co	Cordova			7,239		**7,239**
Total Alaska				**31,980**		**31,980**
WASHINGTON						
Bodey, G. C.	Ocean City		200			**200**
Chinook Packing Co	Chinook			148		**148**
Halferty & Co , G. P	Aberdeen			11,869		**11,869**
Plumb & Edney	Copalis			1,160		**1,160**
Total Washington			**200**	**13,177**		**13,377**
GRAND TOTAL, Razor Clams			**200**	**45,157**		**45,357**
HARDSHELL CLAMS						
Bangor Packing Co	Everett, Wash.	167		1,931	102	(a) **2,200**
Bugge Canning Co	Sequim, Wash.	389		275	316	(b) **980**
Haines Oyster Co	Seattle, Wash.			5,930		**5,930**
Iwersen Canning Co	Pt. Roberts, Wash.	1,139	4,533		924	(c) **6,596**
Total Hardshell Clams		**1,695**	**4,533**	**8,136**	**1,342**	**15,706**
GRAND TOTAL, All Clams		**1,695**	**4,733**	**53,293**	**1,342**	**61,063**

(a) Also packed 575 cases clam nectar in 6–60-oz. glass; 257 cases nectar in 24–25 cans; and 590 cases 6–10s.

(b) Also packed 252 cases clam nectar in 6–10s.

(c) Also packed 200 cases of clam nectar in 6–10s.

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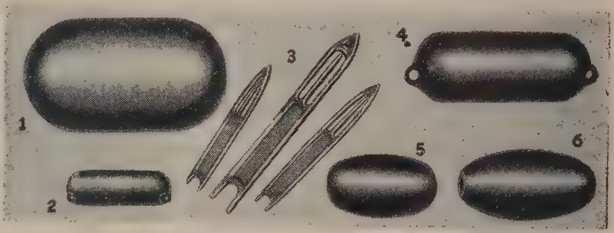

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Razor Clam Price Rises To 21c Bid For Bait

The opening days of the 1948 clam season saw fantastic price performance. With razor clams worth only $11 per case on the market, packers counted themselves able to pay no more than 14c per lb. for clams. This was the opening price when digging began March 1.

By the end of the first week of digging, competitive conditions had jacked the price of clams up to 21c. It could not hold that high, and eventually settled back to 16c, and even to 15c, but the canners had been driven out of the field, with the result that the Washington pack of canned clams for 1948 was only 13,377 cases.

The Washington season was closed April 23 by attainment of the quota.

Alaska Operations Late Due To Cannery Workers Dispute

Natural result of the extremely short clam pack in Washington was a sharp increase in the market price of canned clams which jumped promptly from the pre-season figure of $11 to $14.85 per case of 48 halves.

The situation looked bright for Alaska. The Washington pack was known to be short and it looked as though the Cordova district quota of 40,000 cases could be packed to good advantage. There was no price problem so far as the diggers were concerned, they having accepted the packers' offer of 10½c per pound in advance of the season opening. However, cannery workers declined to accept the seasonal proposal and packing was long delayed. It actually did not begin on clams until about the middle of May.

With the district salmon season opening May 17, by which time the clam pack usually is complete, operations were greatly handicapped.

When clam canning finally began, the three principal operators, G. P. Halferty & Co., H. M. Parks Co., and Gilbert Packing Corporation, con-

Pacific Clam Pack in Previous Years

Year	Alaska, Cases	Puget Sound, Cases	Washington and Oregon Coast, Cases	British Columbia, Cases	Total
1913..........	....	5,800	63,240	....	69,040
1914..........	45	8,313	67,616	....	75,974
1915..........	....	9,457	78,472	....	87.929
1916..........	6,436	7,405	32,707	....	48,548
1917..........	49,923	17,680	20,946	5,500	94,049
1918..........	45,284	17,715	21,821	1,595	86,415
1919..........	26,083	7,668	44,843	....	78,594
1920..........	6,641	8,868	37,777	6,000	59,286
1921..........	1,600	8,327	64,407	6,000	80,334
1922..........	22,807	12,554	74,109	10,550	120,020
1923..........	52,901	12,819	38,038	11,026	114,784
1924..........	55,243	13,020	33,697	16,888	118,830
1925..........	69,522	10,719	35,579	16,318	132,138
1926..........	26,069	9,663	46,962	12,861	95,555
1927..........	16,969	11,677	84,065	13,070	125,781
1928..........	7,415	10,833	67,763	20,163	106,174

RAZOR CLAMS
(Basis 48 halves per case)

Year	Alaska	Washington and Oregon	British Columbia	Total
1929..	28,270	63,526	13,050	**104,846**
1930..	33,937	54,746	12,623	**100,324**
1931..	43,460	53,412	8,658	**105,440**
1932..	69,147	46,002	8,457	**123.606**
1933..	38,213	38,772	....	**76,985**
1934..	31,655	30,232	....	**61,656**
1935..	34,864	53,057	....	**87,921**
1936..	29,900	49,692	....	**79,592**
1937..	29,044	20,373	....	**49,417**
1938..	42,305	64,167	....	**106,472**
1939..	35,258	60,205	....	**95,463**
1940..	41,556	51,705	....	**93,261**
1941..	22,736	27,629	....	**50,365**
1942..	46,703	3,999	5,568	**56,270**
1943..	48,692	1,732	5,821	**56,275**
1944 .	47,050	3,512	**	**50,562**
1945..	43,476	38,152	**	**81,628**
1946..	51,594	51,063	**	**102,657**
1947..	24,726	42,970	....	**67,696**
1948..	31,980	13,377	....	**45,357**

HARD SHELL CLAMS
(Basis 48 halves per case)

Year	Alaska	Washington	*British Columbia	Total
1929..	....	19,514	21,547	**41,061**
1930..	600	27,735	18,738	**46,073**
1931..	2,600	19,516	18,043	**40,159**
1932..	76	13,264	9,201	**22,541**
1933..	....	22,438	20,432	**45,163**
1934..	....	25,880	11,630	**37,510**
1935..	....	37,249	20,418	**57,667**
1936..	....	45,222	25,158	**70,380**
1937..	....	45,788	25,174	**70,962**
1938..	....	40,007	44,310	**84,317**
1939..	....	39,165	10,862	**50,027**
1940..	....	35,250	7,151	**42,402**
1941..	....	22,380	6,772	**29,152**
1942..	....	10,972	12,240	**23.212**
1943..	2,457	2 902	11,642	**†34,001**
1944..	11,630	19,863	**	**†71,024**
1945..	6,029	11,752	4,693	**22,474**
1946..	14,441	20,574	23,867	**98,826**
1947..	323	15,301	**	**15,624**
1948..	....	15,706	....	**15,706**

NOTE:—Segregation between razor and hardshell varieties not available prior to 1929. However, in those years most Alaska and all Washington-Oregon coast production was razor clams, while Puget Sound figures are all hardshell clams. Prior to 1929 figures are cases "as they run," but with halves counted 96 to the case.

*British Columbia figures for years from 1932 to 1947 include some razor clams.

**British Columbia totals not available.

†Total includes clams canned in California from clam meats produced in Mexico, 17,000 cases in 1943, 39,531 cases in 1944, and 225,299 cases in 1945, and 39,944 cases canned in California in 1946.

1948 — CALIFORNIA FROZEN SHELLFISH HOLDINGS BY MONTHS — 1948

Species	Dec., 1947	January, 1948	February	March	April	May	June	July	August	September	October
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Shellfish:											
Clams........................	38,869	39,585	36,424	48,961	41,266	44,795	40,636	37,346	37,094	35,854	39,815
Crab (incl. Crabmeat)........	28,741	33,568	35,117	33,529	40,970	50,234	50,492	48,591	46,509	44,931	44,387
Lobster tails (spiny)........	222,061	295,395	356,629	418,805	409,283	405,516	396,524	383,768	379,028	374,170	376,639
Oysters......................	22,463	27,095	19,516	22,313	22,941	17,899	26,641	21,859	23,783	17,320	24,371
Scallops.....................	158,092	147,809	80,776	63,247	41,488	74,079	64,702	107,325	132,697	160,209	202,394
Shrimp (incl. shrimp meat)...	2,614,569	2,368,060	1,918,482	2,484,807	1,946,652	1,683,498	1,363,659	1,187,194	1,039,145	861,834	804,348
Squid........................	64,553	52,774	59,060	81,264	86,003	123,616	92,932	36,973	63,414	31,748	25,141
Unclassified Shellfish.......	154,851	215,674	219,025	235,728	230,997	208,036	224,889	250,616	236,254	217,211	188,832
Total Shellfish..........	**3,304,199**	**3,179,960**	**2,725,029**	**3,388,654**	**2,819,600**	**2,607,673**	**2,260,475**	**2,073,672**	**1,957,924**	**1,743,277**	**1,705,927**

WASHINGTON RAZOR CLAM PRODUCTION

YEAR	COPALIS BEACH			GRAYLAND BEACH			LONG BEACH			KALALOCK ETC.	**Total Catch All Beaches**
	Number of Digs	Total Catch in Pounds	Catch per Dig Pounds	Number of Digs	Total Catch in Pounds	Catch per Dig Pounds	Number of Digs	Total Catch in Pounds	Catch per Dig Pounds	Total Catch Pounds	**Pounds**
1937..	20,695	546,486	26.4	9,026	285,317	31.6	2,986	99,591	33.4	46,478	**997,872**
1938..	37,064	1,366,441	36.9	20,765	882,619	42.5	9,410	364,383	38.7	44,670	**2,650,355**
1939..	23,903	846,633	35.4	11,182	433,796	38.7	11,321	653,992	57.7	30,692	**1,965,113**
1940..	25,343	604,338	23.8	13,582	347,435	25.5	25,115	1,159,123	46.1	14,886	**2,125,782**
1941..	12,389	406,393	32.8	2,643	111,819	42.3	3,307	222,129	67.2	806	**741,147**
Reserve	7,965	347,693	43.7								
1942..	5,088	143,148	28.1	814	26,283	32.3	3,941	174,104	44.2	*	**343,535**
1943..	5,284	164,907	31.2	1,005	24,728	24.1	799	20,627	25.8	*	**210,262**
1944..	8,485	409,374	48.2	2,705	105,425	38.9	2,651	108,030	40.7	*	**622,829**
1945..	14,519	1,124,965	77.5	5,289	512,298	96.9	4,255	418,673	98.4	1,235	**2,057,171**
1946..	12,387	922,516	74.5	10,548	461,773	43.8	11,109	663,776	59.8	*	**2,048,065**
1947..	16,681	1,164,321	58.5	6,564	305,122	46.5	9,105	544,657	59.7	*	**2,014,100**
1948..	18,263	687,612	37.6	6,642	249,869	37.6	8,489	268,862	31.8	50,350	**1,256,693**

* The small amount dug is included with Copalis Beach.

solidated their clam and salmon canning operations in order that the limited activity possible would not be rendered ineffective by needless confusion.

Under such condition it proved impossible to pack the full 40,000 cases in the district quota before the close of the clam season July 1, and the golden opportunity was lost, with the territorial pack limited to 31,980 cases.

Hardshell Clam Canning Continues Under Difficulties

Hardshell clam canning on the Pacific Coast continued to suffer in 1948 under restrictive limitations imposed by federal regulation. The result was complete suspension of this enterprise in Alaska, while activity in Washington was sharply limited.

There seemed to be substantial increase in interest in the canning of little necks during the year, at least in relations to the canning of butter clams.

"Clam farming," the production of hardshell clams under semi-cultivated conditions on natural beaches was reported as making substantial headway on Puget Sound. However, for the present at least this activity produces clams primarily for the fresh market, rather than for canning.

A noteworthy change in Puget Sound hardshell clam canning during 1948 was the sale of the Bangor Packing Co., long operated by F. A. Bugge at Bangor and Everett, Wash., to the Iwersen Canning Co., operated by I. O. Iwersen at Point Roberts, Wash.

With the opening of crab fishing in Pacific Northwest waters early in 1949 it was evident that there was a slackening of interest in this fishery.

This fact was expected to be translated into a reduced demand for clams for bait.

This in turn should make clams more generally available for canning in 1949.

1948 — Shellfish Receipts by Seattle Wholesale Dealers — 1948

SHELLFISH	UNIT	DEC. 1947	JAN. 1948	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	**TOTAL**
		Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	**Number**
Clams, butter, in shell	Lbs.	....	17,535	10,115	8,247	5,400	....	....	....	....	....	3,350	6,745	**51,392**
Clams, butter, (meats)	Lbs.	* 160	....	....	....	....	....	....	....	....	....	....	....	
Clams, Little Neck	Lbs.	* 1,198	109,191	93,004	120,618	21,440	....	....	....	....	....	47,082	62,523	**453,858**
Clams, Razor, in shell	Lbs.	....	....	....	9,043	1,800	....	....	....	....	....	....	75	**10,918**
Clams, Import	Lbs.	32,147	....	....	22,625	79,267	117,256	55,575	58,658	67,686	51,500	19,519	7,160	**479,246**
Clam Meat, local	Gals.	35	245	....	26	....	....	....	....	....	....	....	....	**271**
Clam Meat, import	Lbs.	60	3,600	....	....	318	....	725	190	1,760	2,763	2,495	3,747	**15,598**
Crabs, Dungeness	Doz.	6,720	9,371	4,431	5,692	7,442	8,306	5,149	1,222	194	60	6,708	4,403	**52,978**
Crabs, import	Lbs.	13,525	8,620	2,068	704	....	....	....	5,978	....	1,360	5,050	....	**23,780**
Crabs, Alaska frozen	Lbs.	....	....	....	....	....	15,825	....	....	....	....	....	....	**15,825**
Crab Meat	Lbs.	1,919	735	1,440	2,560	2,000	8,392	11,917	350	....	100	19,795	13,613	**60,902**
Crab Meat, frozen	Lbs.	8,690	666	3,150	....	1,225	....	7,620	....	145	12,800	2,920	....	**28,526**
Crab Meat, B. C. Import	Lbs.	....	....	....	....	....	....	....	....	....	865	150	....	**1,015**
Lobsters	Lbs.	1,304	1,094	2,915	14,800	4,445	5,210	4,508	8,455	11,210	....	200	1,910	**54,747**
Lobster Tails	....	....	....	....	....	....	....	....	....	4,306	....	....	220	**4,526**
Octopus	Lbs.	610	927	1,603	1,533	1,356	911	1,276	219	381	150	1,205	2,573	**12,134**
Oysters, shucked:														
Eastern	Gals.	51	60	52	60	20	....	....	....	....	....	15	40	**247**
Olympia	Gals.	340	273	140	170	121	83	130	68	54	516	186	123	**1,864**
Pacific	Gals.	29,435	31,304	21,117	23,647	20,854	23,640	12,104	10,768	8,928	14,539	21,853	30,400	**219,154**
Scallops, Bay	Gals.	165	431	152	106	132	29	47	78	135	936	178	103	**2,327**
Scallops, frozen	Lbs.	....	5,000	....	....	....	11,600	2,920	2,350	30,000	5,385	....	350	**57,605**
Shrimp, Local	Lbs.	445	....	....	....	1,582	1,165	720	640	305	....	6,615	3,988	**15,015**
Shrimp, Gulf	Lbs.	5,020	1,000	1,000	....	....	....	500	....	300	....	....	....	**2,800**
Shrimp, frozen	Lbs.	1,250	9,770	4,170	3,900	23,650	....	4,250	1,375	5,550	....	....	6,920	**59,585**
Shrimp, Mexico	Lbs.	....	....	....	....	....	4,000	....	....	....	....	....	4,102	**8,102**
Shrimpmeat, frozen	Lbs.	74,027	93,698	54,709	20,100	3,911	43,440	46,420	39,980	24,640	4,070	8,598	....	**339,566**
Shrimpmeat, Gulf	Lbs.	....	19,350	....	....	....	....	....	300	....	....	....	....	**19,650**
Squid, local	Lbs	590	....	....	....	....	....	....	....	....	....	....	....	
Squid, Calif., round	Lbs.	....	....	30,080	1,510	1,000	3,220	....	5,000	....	....	70	....	**40,880**
Miscellaneous, B. C., frozen	Lbs.	....	....	....	90	....	....	....	100	....	....	....	....	**190**

* December total given in Sacks.

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Pacific fish freezing in 1948 regained most of the ground which it lost the year before, and reached the third rank in history — short only of the freezings of 1945 and 1946.

Northward trend of fish freezing continued to be manifest in 1948 as British Columbia and Alaska tightened their hold on top positions in Pacific fish freezing.

The Province in 1948 froze more fish than in any previous year in history.

It was in northerly trend, rather than in volume or variety that Pacific fish freezing registered its most significant development of 1948.

Between them, Alaska and British Columbia froze 80 per cent of the year's production on the Pacific Coast. They continued to increase their proportionate share of the business, while Washington, Oregon and California freezing lost ground.

Halibut Freezing Hits All-Time Record Mark

As was to be expected, halibut freezing in 1948 touched new high ground. The catch quota was a bit larger than before, and it was taken in the shortest period in the history of the fishery. In consequence, more of the catch had to be frozen, and the freezers handled 45,098,451 lbs., out of a 1948 catch of 55,764,000 lbs.

The halibut freezing picture of 1948 showed decided preference for the larger sizes of fish, a condition which was reflected plainly in the prices paid for chicken halibut during the producing season.

The year made it more than ever apparent that there is a definite trend in the direction of frozen halibut packaging, and that the sizes and grades of fish which lend themselves most readily to steaking and freezing are those which will command the best market prices.

It is considered certain that there would have been a much larger proportion of the halibut steaked and frozen if the rate of landings had not been so high as to forbid working-up the deliveries for packaging.

Westward Freezer Trend Shown in Alaska Pack

The Westward trend of cold storage construction was reflected in

1948--PACIFIC FROZEN SHELLFISH--1948

COMPANY	LOCATION	CRAB		CLAMS, Shucked, Pounds	OYSTERS, Shucked, Pounds	SHRIMP-MEAT, Pounds	Total Pounds
		DUNGENESS CRABMEAT, Pounds	KING CRABMEAT, Pounds				
British Columbia Packers, Ltd	Vancouver, etc	4,731			88,096		**92,827**
Booth Fisheries Co	Seattle	7,500			40,000		**47,500**
Chase Seafoods Co	Everett	1,600		850			**2,450**
Columbia River Packers Association	Astoria	17,690					**17,690**
	Aberdeen	10,945					**10,945**
	Newport, Ore	8,825					**8,825**
Deep Sea Trawlers, Inc	Bering Sea		157,869				**157,869**
Del Mar Canning Co	Warrenton, Ore	5,525					**5,525**
Guffey, Harry	Alaska Peninsula		42,000				**42,000**
Hallmark Fisheries	Charleston, Ore	12,000					**12,000**
Kayler-Dahl Fish Co	Petersburg, Alaska	2,845				71,627	**74,472**
Lawrence Co., J. E	Portland	12,000					**12,000**
New England Fish Co	Astoria	15,490		2,045			**17,535**
Ocean Fresh Seafoods Co	Cordova	16,780					**16,780**
Pacific Exploration Co	Bering Sea		10,000				**10,000**
Parks, Co., H. M	Cordova	55,002					**55,002**
Portland Fish Co	Portland	7,770		5,835	13,748		**27,353**
Prince Rupert Fishermen's Cooperative	Prince Rupert					2,280	**2,280**
San Juan Fishing & Packing Co	Seattle			5,000	100,000		**105,000**
	Warrenton, Ore	100,000		50,000			**150,000**
Seaside Clam Co	Warrenton, Ore	50,000		100,000			**150,000**
Sebastian-Stuart Fish Co	Astoria, Ore			34,700			**34,700**
Seldovia Fisheries Co	Seldovia, Alaska			8,107			**8,107**
Washington Fish & Oyster Co	Seattle	250		100			**350**
Whiz Fish Products Co	Seattle	4,200			98,000		**102,200**
Miscellaneous	Seattle	145,586		17,057	132,418		**295,061**
Total		**478,738**	**209,869**	**223,694**	**472,262**	**73,907**	**1,458,471**

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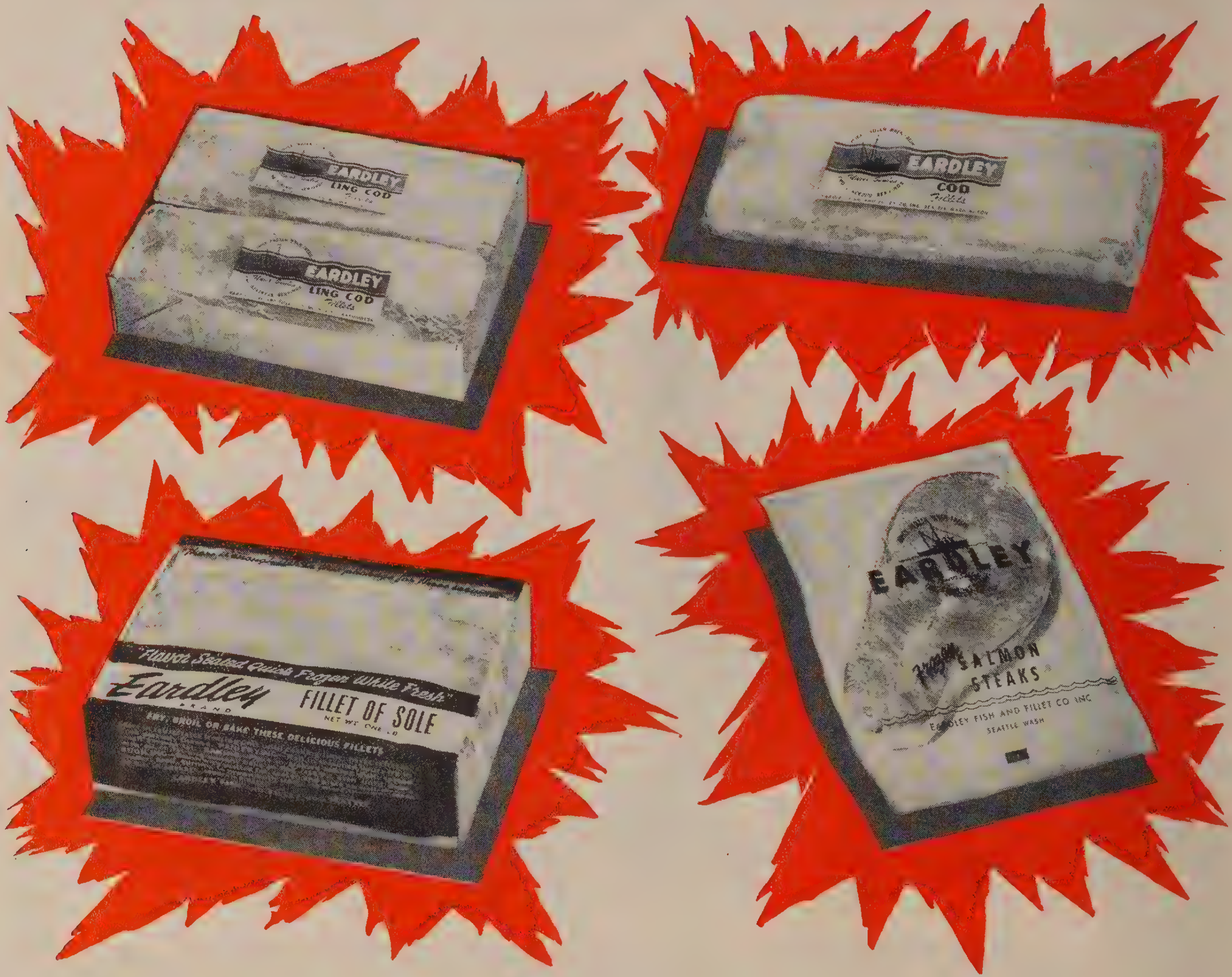
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1948 – PACIFIC FROZEN FISH – 1948

Company	Location	Halibut, Pounds	Salmon, Pounds	Sablefish, Pounds	Miscellaneous Pounds	Fillets, All Varieties	Total Pounds
ALASKA							
Alaska Coast Fisheries Co.	Juneau	1,829,801	930,620	741,788			3,502,209
	Pelican	340,383					340,383
Alaska Fish and Farm Products, Inc.	Anchorage	48,000	178,000			12,400	238,400
Aleutian Cold Storage Co.	Sand Point	954,520	761,059	2,353		2,970	1,720,902
Booth Fisheries Corp.	Juneau	400,000	75,000	125,000			600,000
	Ketchikan	550,000					550,000
	Pelican	500,000	600,000	225,000			1,325,000
	Petersburg	100,000					100,000
	Sand Point	175,000					175,000
	Sitka	185,000					185,000
Chase Fish Corporation	Petersburg	62,485		1,425			63,910
Halibut Producers' Cooperative	Petersburg	839,771		182,918			1,022,689
Juneau Cold Storage Co.	Juneau			43,775	3,100		46,875
Kayler-Dahl Fish Co., Inc.	Petersburg	197,300	76,960	359,865			634,125
Ketchikan Cold Storage Co.	Ketchikan	3,214,383	1,531,877	316,416			5,062,676
McCallum-Legaz Fish Co.	Sitka and Ketchikan	880,000	65,000	100,000			1,045,000
New England Fish Co.	S. E. Alaska	2,100,000	950,000	130,000		150,000	3,330,000
Oxenberg Brothers, Inc.	Ketchikan	159,052	301,729	29,560			490,341
	Petersburg		79,961	309,850			389,811
	Sitka	219,172	114,604	132,542			466,318
	Wrangell		24,253				24,253
Parks, Co., H. M.	Cordova	664,731					664,731
Pelican Cold Storage Co.	Pelican	445,255	331,532	305,457			1,082,244
Petersburg Cold Storage Co.	Petersburg	1,056,766	31,327	157,027			1,245,120
Phillips, E. C.	Ketchikan	1,101,447	138,305	71,024			1,310,776
San Juan Fishing & Packing Co.	Ketchikan	194,546	75,000	5,000			274,546
Sebastian-Stuart Fish Co.	Juneau	672,683	694,578	474,137			1,841,398
	Pelican	572,600	593,448	250,068			1,416,116
	Sitka	786,143	452,385	28,569			1,267,097
	Tyee	71,818	28,017				99,835
	Wrangell	292,593	145,682	88,798			527,073
Seldovia Fisheries, Inc.	Seldovia	544,477					544,477
Sitka Cold Storage Co.	Sitka	2,563,256	584,130	321,500			3,468,886
Vita Food Products, Inc.	Ketchikan	98,572	306,089				404,661
	Petersburg		23,495	119,200			142,695
	Sitka	43,029	83,260	42,147			168,436
Washington Fish & Oyster Co.	Port Williams	1,161,677	800				1,162,477
Whiz Fish Products Co.	Juneau	76,000					76,000
	Ketchikan	185,000	35,000				220,000
	Pelican	500,000	192,000	275,000			967,000
	Petersburg	280,000	33,000	95,000			408,000
	Sand Point	700,000					700,000
	Sitka	290,000		25,000			315,000
	Wrangell	25,000					25,000
Wrangell Cold Storage Co.	Wrangell	402,079	145,121	106,637	2,190		656,027
Miscellaneous	Cordova, La Touche, Etc.	537,595					537,595
Total Alaska		**26,020,134**	**9,582,232**	**5,065,056**	**5,290**	**165,370**	**40,838,082**
BRITISH COLUMBIA							
British Columbia Packers, Ltd. (Includes subsidiary companies)	Vancouver, Steveston, Victoria, Prince Rupert, etc.	3,913,085	8,470,396	371,960	3,353,412		16,108,853
Canadian Fishing Co., Ltd., The	Vancouver, Prince Rupert, etc.	3,092,000	4,267,000	319,000	857,000	1,174,000	9,709,000
Prince Rupert's Fishermen's Co-op. Assn.	Prince Rupert	3,196,138	2,222,137	935,068		476,856	6,830,199
San Juan Fishing & Packing Co.	Prince Rupert	1,196,064	250,000	25,000			1,471,064
Whiz Fish Products Co.	Prince Rupert	115,000					115,000
Miscellaneous	Vancouver and New Westminster	(a)	(a)	(a)	(a)	(a)	(a) 14,025,616
Total British Columbia		**11,512,287**	**15,209,533**	**1,651,028**	**4,210,412**	**1,650,856**	**48,259,732**
PUGET SOUND AND WASHINGTON COAST							
Booth Fisheries Corp.	Seattle	775,000	725,000	205,000		430,000	2,135,000
Chase Fish Corp.	Seattle	173,868	51,633	8,520		4,465	238,486
Chase Seafood Co.	Everett	7,000	29,000	23,220		16,500	75,720
Eardley Fish & Fillet Co.	Seattle	231,000	144,000	175,000		768,000	1,318,000
McCallum-Legaz Fish Co.	Seattle	210,000	66,000	100,000			376,000
New England Fish Co.	Everett and Seattle	900,000	600,000	10,000			1,510,000
Oxenberg Brothers, Inc.	Seattle	255,665	49,280	197,750		95,820	598,515
Paragon Packing Co.	Hoquiam					124,143	124,143
San Juan Fishing and Packing Co.	Seattle	835,575	750,000	365,000		350,000	2,300,575
Sebastian-Stuart Fish Co.	Seattle	464,988	154,200	33,240		251,155	903,583
Washington Fish & Oyster Co.	Seattle	977,795	958,620	89,785		53,404	2,079,604
Whiz Fish Products Co.	Seattle	600,000	150,000	130,000		300,000	1,180,000
Miscellaneous	Seattle	1,721,683	677,666	181,999	797,882		3,379,230
Total Puget Sound and Washington Coast		**7,152,574**	**4,355,399**	**1,519,514**	**797,882**	**2,393,487**	**16,218,856**
COLUMBIA RIVER AND OREGON COAST							
Columbia River Packers Assn.	Astoria	194,542	138,311	8,603		368,710	710,166
	Newport	64,462	13,010	83,805		222,365	383,642
Feller, Charles	Coos Bay	5,000	40,000			10,000	55,000
Lawrence Co., J. E.	Portland		25,000				25,000
New England Fish Co.	Astoria & Kalama	30,000	410,000	65,000		1,900,000	2,405,000
Paragon Packing Co.	Astoria	6,107	37,006	67,569		226,000	336,682
	Portland		194,284				194,284
Portland Fish Co.	Portland	19,980	178,385	2,785		7,170	208,320
San Juan Fishing & Packing Co.	Warrenton	90,000	75,000	25,000		1,250,000	1,440,000
Sebastian-Stuart Fish Co.	Astoria		46,677	7,826		144,785	199,288
Union Fishermen's Coop. Packing Co.	Astoria		30,129	7,264		17,155	54,548
Yaquina Bay Fish Co.	Newport			62,005		95,520	157,525
Total Columbia River and Oregon Coast		**410,091**	**1,187,802**	**329,857**		**4,241,705**	**6,169,455**
CALIFORNIA		**3,365**	**41,200**	**4,834**	**1,728,963**	**168,167**	**1,946,529**
GRAND TOTAL		**45,098,451**	**30,376,166**	**8,570,289**	**6,742,547**	**8,619,585**	**113,432,654**

NOTE:—Amounts of fish shown in the above table as frozen by companies operating public custom cold storages are **net** amounts, representing only the fish frozen in those plants and not covered elsewhere in the table by individual reports from firms which had the fish frozen on their account. **Gross** amounts of fish frozen in Alaska custom cold storages are shown in a separate table elsewhere in this issue.

(a) Fish frozen in Vancouver and New Westminster custom cold storages consisted largely of Chum salmon and halibut, but segregation as to species is not available. Accordingly, only the total amount frozen is carried in this table, and it appears only in the total column.

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the Alaska halibut freezing figures for 1948.

The territory packed 26,020,134 lbs. of frozen halibut out of a total reported pack of 45,098,451 lbs. This was more than twice the reported total for British Columbia.

The new plant of the Aleutian Cold Storage Co. at Sand Point, Shumagin Islands, went into operation during the year, and there were notable additions to capacity in some of the other Westward storages; and in Southeast Alaska as well.

Freezer capacity in the territory is being increased again this year and Alaska is making a determined competitive bid to clinch its hold

1948 – Alaska Custom Cold Storage Freezings – 1948

COMPANY	LOCATION	HALIBUT Pounds	SALMON Pounds	FILLETS Pounds	SABLEFISH Pounds	MISCELLANEOUS Pounds	Grand Total Pounds
Alaska Fish & Farm Products	Anchorage	48,000	178,000	12,400	....	....	238,400
Aleutian Cold Storage Company	Sand Point	1,829,520	761,059	2,970	2,353	....	2,595,902
Juneau Cold Storage Company	Juneau	2,810,100	1,670,000	....	1,384,700	3,100	5,867,900
Ketchikan Cold Storage Company	Ketchikan	5,461,000	2,388,000	....	422,000	....	8,271,000
Pelican Cold Storage Company	Pelican	2,358,238	1,716,980	....	1,055,525	....	5,130,743
Petersburg Cold Storage Company	Petersburg	1,382,251	167,783	....	682,502	....	2,232,536
Sitka Cold Storage Company	Sitka	3,029,600	999,379	....	449,758	....	4,478,737
Wrangell Cold Storage Company	Wrangell	719,672	315,056	....	195,435	2,190	1,232,353
Totals		**17,638,381**	**8,196,257**	**15,370**	**4,192,273**	**5,290**	**30,047,571**

Pacific Frozen Fish – 1937 to 1948

DISTRICT AND YEAR	HALIBUT Pounds	SALMON Pounds	STEELHEAD Pounds	SABLEFISH Pounds	MISC. Pounds	TOTALS and Years
1937						**1937**
Alaska	7,465,551	5,794,466	2,500	1,924,817	305,149	15,492,483
British Columbia	9,550,661	11,698,592	200,361	1,378,442	698,481	23,526,537
Puget Sound	8,490,747	10,121,808	....	2,314,399	1,578,453	22,505,407
Columbia River & Coast	25,000	391,000	520,996	35,000	61,253	1,033,249
California	80,000	804,000	....	311,000	1,584,040	2,779,540
Total, 1937	**25,611,959**	**28,809,866**	**723,857**	**5,964,158**	**4,227,376**	**65,337,216**
1938						**1938**
Alaska	6,904,640	7,918,897	4,274	773,787	68,305	15,669,903
British Columbia	10,870,867	12,662,933	324,000	1,329,009	987,260	26,174,069
Puget Sound	8,174,462	7,796,087	....	2,248,790	2,342,902	20,562,241
Columbia River & Coast	211,350	207,478	465,909	118,465	119,594	1,122,796
California	128,804	434,155	....	138,587	2,573,527	3,275,073
Total, 1938	**26,290,123**	**29,019,550**	**794,183**	**4,608,638**	**6,091,588**	**66,804,082**
1939						**1939**
Alaska	6,389,488	4,783,751	2,465	1,525,600	280,794	12,982,098
British Columbia	13,414,006	9,631,742	189,516	1,080,053	813,956	25,129,273
Puget Sound	7,795,768	4,488,450	....	1,887,336	1,827,266	15,998,820
Columbia River & Coast	252,692	607,100	352,884	135,347	243,600	1,591,623
California	32,807	301,956	....	407,870	3,147,932	3,890,565
Total, 1939	**27,884,761**	**19,812,999**	**544,865**	**5,036,206**	**6,313,548**	**59,592,379**
1940						**1940**
Alaska	8,310,553	6,304,064	11,413	1,824,532	682,721	17,133,283
British Columbia	13,453,612	11,347,239	237,000	1,285,915	1,317,404	27,641,170
Puget Sound	8,645,576	6,748,021	....	1,832,112	1,600,432	18,826,141
Columbia River & Coast	553,269	267,370	33,573	98,642	253,634	1,206,488
California	26,033	439,339	....	298,460	4,353,273	5,117,105
Total, 1940	**30,989,043**	**25,106,033**	**281,986**	**5,339,661**	**8,207,464**	**69,924,187**
1941						**1941**
Alaska	7,564,940	6,119,050	....	1,720,977	924,420	16,329,387
British Columbia	14,560,498	9,632,364	91,913	1,604,554	966,559	26,855,888
Puget Sound	9,440,017	7,569,858	....	1,348,723	2,345,540	20,704,138
Columbia River & Coast	602,210	178,498	1,628	118,120	761,013	1,661,469
California	100,000	462,000	....	227,000	5,965,887	6,754,887
Total, 1941	**32,267,665**	**23,961,770**	**93,541**	**5,019,374**	**10,963,419**	**72,305,769**
1942						**1942**
Alaska	8,720,056	7,908,717	8,606	4,851,974	361,554	21,850,907
British Columbia	16,571,639	12,150,338	18,046	1,697,327	3,541,929	33,979,279
Puget Sound	6,815,874	5,608,307	....	1,221,946	3,066,177	16,712,304
Columbia River & Coast	216,684	563,780	222,684	186,710	1,556,008	2,745,866
California	10,000	25,000	....	26,000	8,460,332	8,521,332
Total, 1942	**32,334,253**	**26,256,142**	**249,336**	**7,983,957**	**16,986,000**	**83,809,688**
1943			**Fillets**			**1943**
Alaska	11,068,724	9,114,694	....	3,986,438	825,505	24,995,361
British Columbia	10,397,337	13,313,250	60,076	2,320,559	2,667,881	28,759,103
Puget Sound	4,250,010	2,530,755	429,394	860,577	6,846,616	14,917,352
Columbia River & Coast	161,452	956,719	3,958,405	359,050	2,311,503	7,747,129
California	5,000	15,000	....	20,000	7,571,674	7,611,674
Total, 1943	**25,882,523**	**25,930,418**	**4,447,875**	**7,546,624**	**20,223,179**	**84,030,619**
1944			**Fillets**			**1944**
Alaska	19,214,203	10,753,715	....	5,413,503	1,892,846	37,274,267
British Columbia	12,574,036	14,793,573	572,315	1,856,055	3,763,055	33,559,190
Puget Sound	5,237,071	4,264,315	2,893,179	2,305,848	3,777,952	18,478,365
Columbia River & Coast	628,285	1,917,542	5,733,930	178,742	758,745	9,217,244
California	15,000	19,000	....	23,000	7,007,484	7,064,484
Total, 1944	**37,668,595**	**31,748,145**	**9,199,424**	**9,777,304**	**17,200,082**	**105,593,550**
1945			**Fillets**			
Alaska	19,353,649	13,374,086	....	5,955,388	3,396,849	42,079,972
British Columbia	10,290,942	19,931,674	1,745,529	1,254,623	5,890,142	39,112,910
Puget Sound & Wash. Coast	6,728,420	9,030,403	4,193,268	1,071,796	5,673,660	26,697,547
Columbia River & Ore. Coast	506,242	2,655,787	2,176,400	270,634	8,670,915	14,279,978
California	....	....	....	....	7,142,638	7,142,638
Total, 1945	**36,879,253**	**44,991,950**	**8,115,197**	**8,552,441**	**30,774,204**	**129,313,045**
1946			**Fillets**			**1946**
Alaska	14,966,616	12,036,956	30,000	4,519,989	2,075,530	33,629,091
British Columbia	12,782,294	14,384,544	1,972,000	1,778,855	11,486,110	42,403,803
Puget Sound & Wash. Coast	8,050,947	6,388,388	3,895,400	1,714,185	2,807,240	22,856,160
Columbia River & Ore. Coast	555,884	4,373,849	4,511,986	416,003	3,147,126	13,004,848
California	585,807	852,370	252,064	182,810	3,394,719	5,267,770
Total, 1946	**36,941,548**	**38,036,107**	**10,661,450**	**8,611,842**	**22,910,725**	**117,161,672**
1947			**Fillets**			**1947**
Alaska	20,638,301	10,197,755	4,597	886,535	383,473	32,110,661
British Columbia	14,930,795	13,583,850	1,057,828	729,492	6,357,106	36,659,071
Puget Sound & Wash. Coast	4,933,377	4,241,310	1,658,152	921,204	1,004,330	12,758,373
Columbia River & Ore. Coast	618,266	1,272,508	1,681,488	60,786	985,697	4,618,745
California	1,173,863	632,681	52,876	35,895	3,930,147	5,825,462
Total, 1947	**42,294,602**	**29,928,104**	**4,454,941**	**2,633,912**	**12,660,753**	**91,972,312**
1948			**Fillets**			**1948**
Alaska	26,020,134	9,582,232	165,370	5,065,056	5,290	40,838,082
British Columbia	11,512,287	15,209,533	1,650,856	1,651,028	4,210,412	48,259,732*
Puget Sound & Wash. Coast	7,152,574	4,355,399	2,393,487	1,519,514	797,882	16,218,856
Columbia River & Ore. Coast	410,091	1,187,802	4,241,705	329,857	....	6,169,455
California	3,365	41,200	168,167	4,834	1,728,963	1,946,529
Total, 1948	**45,098,451**	**30,376,166**	**8,619,585**	**8,570,289**	**6,742,547**	**113,432,654**

*Includes 14,025,616 pounds, unclassified fish, frozen in custom cold storages.

NOTE.—Since 1942 Steelheads have been combined with salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported.

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on the halibut freezing business. In this undertaking it is of course aided by the shortness of the season, which makes it desirable for the fishermen to sell their fish at a near-by port and get to sea again just as soon as possible for another load.

Salmon Freezing Rises To Surprising Levels

With Pacific salmon freezing reported well above 30 million pounds in 1948, a surprising level was attained. This was narrowly above 1947 freezing, but somewhat short of 1944, 1945 and 1946.

The salmon freeze total was notable primarily because it was regis-

1948 – ALASKA FISH FREEZINGS BY MONTHS – 1948

(Includes American-Caught Fish Frozen in Bond in British Columbia)

	Dec. 1947	Jan. 1948	February	March	April	May	June	July	August	September	October	November	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food	155,000	89,600	935,600	1,441,300	261,400	123,827	13,575	19,285	21,390	4,729	9,040		**3,074,746**
Cod, rock or red						12,303	32,747	96,986	180,655	1,456	1,685		**325,832**
Fillets:													
Cod, rock							1,590						**1,590**
Lingcod											2,500		**2,500**
Other Fillets					2,085	1,777							**3,862**
Halibut						10,585,430	7,343,382	3,030,343	134,606	234,975	42,026	5,113	**21,375,875**
Lingcod						4,357	13,747	8,933	5,763	2,447			**35,247**
Sablefish					37,144	231,703	577,340	1,159,789	913,113	703,480	223,804	27,215	**3,873,588**
Salmon:													
King or Chinook	7,125	12,614		10,993	12,223	318,123	957,696	486,452	260,433	140,720	56,155	22,077	**2,284,611**
Silver or Coho						2,421	60,382	1,451,222	2,378,850	1,042,270	33,747		**4,968,892**
Fall or Chum							595	13,602	586,213	242,015	141,433	9,682	**993,540**
Pink							72	23,059	129,848	23,969			**176,948**
Steelhead						2,876	32	20,630	4,595				**28,133**
Unclassified						3,698	103,955	70,801	107,199	131,740			**417,393**
Tuna									178,752	125,109			**303,861**
Unclassified	1,565					8,253	1,765	2,329	4,071	4,288	6,061		**28,332**
Total	**163,690**	**102,214**	**935,600**	**1,452,293**	**312,852**	**11,294,768**	**9,106,878**	**6,383,431**	**4,905,488**	**2,657,198**	**516,451**	**64,087**	**37,894,950**
Shellfish:													
Clams and Clammeat						8,107							**8,107**
Shrimp and Shrimpmeat										20,310			**20,310**
Crabs and Crabmeat											7,535	3,150	**10,685**
Total						**8,107**				**20,310**	**7,535**	**3,150**	**39,102**
Total Fish and Shellfish	**163,690**	**102,214**	**935,600**	**1,452,293**	**312,852**	**11,302,875**	**9,106,878**	**6,383,431**	**4,905,488**	**2,677,508**	**523,986**	**67,237**	**37,934,052**

Holdings of Frozen Salmon in Canada by Months

Year	Jan. Pounds	Feb. Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	Aug. Pounds	Sept. Pounds	Oct. Pounds	Nov. Pounds	Dec. Pounds	Year
1943	6,308,321	4,182,200	3,234,767	1,589,868	885.223	421,659	594,768	1,180,187	2,335,864	3,843,579	6,952,658	9,824,748	1943
1944	8,635,758	6,370,436	4,819,463	2,609,243	1,835,781	1,168,639	1,157,122	2,212,091	3,649,937	7,817,412	8,971,042	7,434,228	1944
1945	4,017,350	3,027,215	1,888,775	1,213,719	648,610	918,446	2,577,126	5,840,128	8,809,170	11,943,350	11,280,404	8,859,173	1945
1946	6,196,698	4,663,385	2,859,525	1,470,544	719,534	1,475,319	2,307,094	4,285,454	6,972,441	10,414,660	12,528,448	8,995,555	1946
1947	8,065,293	5,623,953	4,244,154	3,066,183	2,009,028	1,849,142	3,312,750	4,773,313	6,069,550	10,811,277	11,332,636	11,344,880	1947
1948	12,466,184	10,913,375	8,927,076	5,322,464	3,453,347	2,804,133	2,717,693	3,992,869	4,677,241	6,008,142	9,818,465	*	1948

* Data not available.

1948 — OREGON FISH FREEZINGS BY MONTHS — 1948

Variety	Dec. 1947	Jan. 1948	February	March	April	May	June	July	August	September	October	November	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food			380	38,375	15,076	13,805	830		11,828	7,717	54,800	163,950	**306,761**
Cod, rock or red		55,020		36,961	180	125	233	515			156	8,321	**101,511**
Cod, true										20,315			**20,315**
Fillets:													
Cod, rock or red	16,205		14,393	32,799	177,560	82,649	12,860	3,045	31,240	16,905	11,490	2,550	**401,696**
Cod, true	1,449			240	325	905	1,490	1,210	265				**5,884**
Flounder	3,275	33,471	4,201	130	4,627	30,437	8,167	33,385	27,055	16,605	9,806	1,995	**173,154**
Lingcod	1,434	2,714	2,100	1,375	9,668	14,490	5,580	1,775	13,885	4,100	430	65	**57,616**
Sole: Dover		250			190	87,888	96,850	242,205	129,345	127,535	53,435		**737,698**
English	7,580	24,443	12,857	15,120	37,561	32,425	142,735	98,456	75,125	45,955	20,885	1,205	**514,347**
Petrale	3,420	7,900	1,585	8,885	34,340	60,140	99,170	94,935	123,005	23,105	16,060	2,480	**475,025**
Rex	390												**390**
Other	1,943	2,825	2,177	27,965	14,991	92,275	84,953	63,365	46,700	74,440	34,069		**445,703**
Other fillets	775	3,600		2,375	3,450	3,540	2,810	1,055	10,965	4,875	2,225	770	**36,440**
Flounders, etc.			1,710			23,335	4,840					2,410	**32,295**
Halibut						166,975	83,373	50,193	2,358	4,666			**307,565**
Lingcod	1,176	4,819	32	4,931	15,320	39,173	23,910	7,011	26,165	5,112	10,698	3,351	**141,698**
Mackerel						290							**290**
Sablefish	1,482				3,853	2,009	18,870	19,489	22,233	103,311	32,916	18,190	**222,353**
Salmon:													
King or Chinook	10					2,000	1,612	467	156,106	320,988	47,608	3,864	**532,655**
Silver or Coho	2,025	1,000						365	10,650	16,309	58,880	86,339	**175,568**
Fall or Chum	1,538										13,905	114,811	**130,254**
Steelhead	8,591	230		555		3,378	563	2,104	15,592	39,576	5,645	33,620	**109,654**
Unclassified					270	2,207			29,361	432,982	121,758	3,363	**589,941**
Shad						96,379	74,149	7,700					**178,228**
Shad roe						2,300	2,050	2,460					**6,810**
Smelt		100		779,750	61,083	70					32,268		**873,271**
Sole					54		6,368			2,400	1,531	9,259	**19,612**
Tuna						1,693,371	265,786	1,905,419	574,971	252,764	519,122	451,824	**5,663,257**
Unclassified	6,912	3,840	2,154	1,040		56,286	14,027	52,042	69,800	37,494	28,016	20,767	**292,378**
Total	**58,205**	**140,212**	**39,879**	**952,211**	**378,548**	**2,506,452**	**951,026**	**2,587,196**	**1,376,649**	**1,557,154**	**1,075,703**	**929,134**	**12,552,369**
Shellfish													
Clams and Clam Meat				47,664	12,770	1,026	19,580	4,402	6,837	572	1,226	70	**94,147**
Crabs and Crab Meat	13,035	760	1,550	2,193	12,960	15,080	36,605	4,345	100	2,850	1,170	6,558	**97,206**
Lobster Tails, spiny	1,100	1,400			300	715	1,466					295	**5,276**
Oysters	4,752	6,578		1,386	593	3,004	2,800				1,005	2,415	**22,533**
Squid		9,020								9,700			**18,720**
Total	**18,887**	**17,758**	**1,550**	**51,243**	**26,623**	**19,825**	**60,451**	**8,747**	**6,937**	**13,122**	**3,401**	**9,338**	**237,882**
Total Fish and Shellfish	**77,092**	**157,970**	**41,429**	**1,003,454**	**405,171**	**2,526,277**	**1,011,477**	**2,595,943**	**1,383,586**	**1,570,276**	**1,079,104**	**938,472**	**12,790,251**

tered in a year when canning demand made extremely heavy inroads on the amount of salmon available for freezing.

Objective study of the data indicates that a substantial portion of the reported salmon freezings doubtless went ultimately into cans. This is particularly true of the production in British Columbia, which accounted for more than half of the reported salmon freezing.

Canadian Salmon Freeze Reaches Astonishing Levels

It is altogether probable that the British Columbia frozen salmon pack of 1948 ran larger in the aggregate

SALMON FREEZING IN CANADA BY MONTHS

Year	Jan. Pounds	Feb. Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	Aug. Pounds	Sept. Pounds	Oct. Pounds	Nov. Pounds	Dec. Pounds	**Total Pounds**
1944	*	366,346	199,226	34,334	35,166	799,534	1,736,542	2,902,804	3,602,202	3,489,092	490,764	216,862	**13,872,872**
1945	419,230	95,244	360,661	19,945	158,305	719,710	2,168,804	3,789,008	3,996,186	4,676,861	1,313,675	401,122	**18,118,751**
1946	18,904	520,509	*	42,216	114,952	1,213,867	2,131,929	3,098,060	3,709,790	6,134,139	3,262,982	421,969	**20,670,317**
1947	271,572	221,343	270,066	41,620	342,709	921,265	2,328,428	2,658,952	2,628,493	6,477,323	1,873,407	1,725	**18,036,903**
1948	442,860	146,895	7,250	14,889	228,777	1,498,108	2,236,691	2,625,650	2,771,216	8,378,417	*	*	**18,350,753**

* Data not available.

than is shown under the salmon classification in the accompanying table.

This is due to the fact that the Canadian total contains an item of 14,000,000 lbs. of fish frozen in custom storages which cannot be segregated as to variety.

It is believed that Chum salmon made up the greater portion of this amount; and at the same time it is altogether reasonable to surmise that a very large part of such fish was frozen for subsequent canning.

Fillet Freezing Shows Large Gain from Previous Season

Fillet freezing reported by Pacific Coast operators in 1948 shot ahead

1948 — CALIFORNIA FROZEN FISH HOLDINGS BY MONTHS — 1948

Species	Dec., 1947	January, 1948	February	March	April	May	June	July	August	September	October
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Bait and Animal Food	71,078	67,366	47,356	62,129	95,322	126,493	152,793	126,247	133,436	157,737	155,406
Cod, haddock, hake and p llock	15,050	18,900	19,950				22,300	65,300	42,604		68,710
Fillets:											
Cod	50,034	14,800	1,552	1,582	1,240	3,814	2,330	5,318	6,930	15,186	16,738
Flounder (incl. sole)	48,293	56,916	52,622	66,749	80,256	58,316	117,918	149,548	144,607	137,092	163,475
Haddock		3,500	1,000	750				918			
Lingcod	800	500	70	6,300	3,500	5,347	3,259	6,547	5,557	15,402	5,472
Mackerel	3,875	68,990	3,750	3,750	3,750	15,293	12,949	18,134	18,784	21,139	20,147
Rosefish								10,500			128,140
Whiting	3,500										
Other fillets	29,448	21,642	31,021	18,199	29,332	26,774	49,763	32,818	40,314	125,066	211,723
Flounders (incl. sole, fluke, Cal. halibut, etc., exc. fillets)	223,678	204,713	176,117	156,978	160,170	210,764	140,365	238,823	232,036	239,492	184,305
Halibut	660,053	553,982	469,252	414,569	302,093	321,853	251,142	451,772	448,723	576,112	440,195
Mackerel (excl. fillets, Spanish and King)	75,290	70,296	87,417	87,419	63,408	48,614	42,815	36,377	29,413	29,324	28,149
Mullet			100	80	80	90	65	65		12	12
Sablefish (Black Cod)	46,882	79,285	49,159	45,003	42,312	45,109	43,671	43,738	46,172	88,959	49,192
Salmon:											
King or Chinook	69,806	57,617	6,578	4,566	8,742	5,835	3,780	23,124	20,491	33,182	51,221
Silver or Coho	38,151	26,677	69,989	51,760	32,251	30,082	30,009	30,788	44,046	35,527	40,729
Fall or Chum	250,557	245,376	254,982	252,309	259,031	288,366	305,442	332,693	394,618	397,358	404,583
Pink	148,295		149,993	149,478		143,396		125,284	122,157	120,149	119,477
Steelhead Trout	500			10,950							
Unclassified	839,972	584,092	397,016	664,811	723,131	311,678	229,162	104,944	550,237	517,496	201,359
Sea Trout					6,950	5,700	5,200	4,416	3,050	1,150	400
Shad (incl. roe shad)	43,761	44,575	43,155	42,939	43,469	15,633	21,953	20,325	20,211	19,032	15,622
Shad, roe	5,610	5,310	5,336	5,676	5,647	38,147	10,435	11,293	12,174	11,189	16,441
Smelt	180,918	178,601	177,431	180,759	181,972	177,883	171,359	168,019	171,057	169,049	175,209
Swordfish	208,038	177,462	181,400	168,435	158,233	159,953	173,651	164,700	225,825	246,619	279,071
Tuna	15,954	103,005	99,377	98,828	96,966	92,428	90,994	88,948	105,103	103,446	100,740
Unclassified saltwater fish	942,567	769,972	696,923	685,062	733,142	1,169,013	1,171,474	1,189,600	1,233,833	823,439	1,309,733
Total	**3,972,110**	**3,353,577**	**3,021,546**	**3,179,081**	**3,031,027**	**3,300,581**	**3,052,829**	**3,450,239**	**4,051,378**	**3,883,157**	**4,186,249**

Annual Landings of Columbia River Silver Salmon, 1935-1947

(Pounds of Fish Landed)

Year	Washington			Oregon			Total		GRAND TOTAL	Year
	Inside Catch	Outside Catch	Total (Pounds)	Inside Catch	Outside Catch	Total (Pounds)	Inside Catch	Outside Catch		
1935	640,339	484,883	1,125,222	1,529,297	2,623,373	4,152,670	2,169,636	3,108,256	**5,277,892**	1935
1936	340,955	600,489	941,444	805,110	784,802	1,589,912	1,146,065	1,385,291	**2,531,356**	1936
1937	549,058	407,752	956,810	887,003	1,082,753	1,969,756	1,436,061	1,490,505	**2,926,566**	1937
1938	789,446	870,029	1,659,475	1,525,920	1,342,178	2,868,098	2,315,366	2,212,207	**4,527,573**	1938
1939	441,559	697,324	1,138,883	1,090,063	1,109,575	2,199,638	1,531,622	1,806,899	**3,338,521**	1939
1940	373,744	652,139	1,025,883	999,762	971,460	1,971,222	1,373,506	1,623,599	**2,997,105**	1940
1941	264,602	277,640	542,242	791,417	606,288	1,397,705	1,056,019	883,928	**1,939,947**	1941
1942	171,664	361,743	533,407	472,896	101,176	574,072	644,560	462,919	**1,107,479**	1942
1943	194,399	297,945	492,344	510,950	124,227	635,177	705,349	422,172	**1,127,521**	1943
1944	405,423	588,991	994,414	1,187,811	286,637	1,474,448	1,593,234	875,628	**2,468,862**	1944
1945	511,797	378,383	890,180	1,361,389	233,891	1,595,280	1,873,186	612,274	**2,485,460**	1945
1946	317,444	486,258	803,702	740,988	478,010	1,218,998	1,058,432	964,268	**2,022,700**	1946
1947	404,659	834,669	1,239,328	1,054,530	598,695	1,653,225	1,459,189	1,433,364	**2,892,553**	1947

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of 1947, with production of 8,600,000 lbs., nearly twice the reported pack of the year before.

At the same time, this volume was less than in the 1944 and 1946 seasons. With over 10,000,000 lbs. of fillets frozen, 1946 still stands as the record year.

Fillet freezing in 1948 was supported importantly by resumption of substantial purchasing by the armed services. This permitted the packing of rockfish, which had proven almost inacceptable to the present-day civilian market.

Furthermore, perfection in the handling, filleting, packing and freezing of sole gave great encouragement to the marketing of

1948 — ALASKA FROZEN FISH HOLDINGS — 1948

(Includes American-Caught Fish Frozen in Bond in British Columbia)

VARIETY	DEC., 1947	JANUARY, 1948	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Bait and Animal Food	740,400	1,276,000	2,210,200	2,755,700	2,809,290	1,777,752	1,091,175	770,260	201,790	50,869	40,041	30,486
Cod, rock or red		11,549	11,549	11,549	11,549	23,852	65,844	161,057	227,951	18,829	16,678	17,869
FILLETS:												
Cod, rock or red		936	936	936	936	936	936	1,936	1,936	1,850	1,800	1,750
Lingcod									25,279			
Other fillets					2,314			938		818		
Halibut	3,564,359	1,757,398	1,436,887	796,828	529,387	9,414,266	15,149,462	15,515,427	12,828,510	10,244,664	3,936,646	5,551,852
Lingcod	78	4,731	4,731	4,731	4,731	8,762	19,171	26,570		51,662	18,806	9,752
Tuna									178,752	12,801		
Sablefish	234,344	60,455	32,109	30,741	38,179	150,079	480,596	1,118,746	1,287,117	1,758,513	1,025,569	1,149,455
SALMON:												
King or Chinook	487,573	230,147	172,299	25,308	39,309	265,803	976,815	938,295	994,446	830,132	642,851	583,665
Silver or Coho	1,025,541	576,656	380,308	67,800	69,490	26,401	74,454	1,213,208	2,417,104	2,335,211	1,641,855	1,357,560
Fall or Chum	284,117	263,831	242,670	242,470	239,318	239,318	913	13,116	562,521	414,723	171,699	142,111
Pink	6,867	50	50	50	50	50	122	99,997	139,050	26,575	4,411	4,411
Steelhead	188	198	216	391	216	464	248	15,452	1,656	340	393	265
Unclassified	359,681	339,011	233,155	208,200			101,503	104,635	158,042	213,019	244	166,401
Unclassified	7,599	6,014	3,764			4,634	2,771	1,827	4,797	381	3,157	1,724
Total	**6,710,747**	**4,526,976**	**3,599,204**	**4,144,704**	**3,744,769**	**11,912,317**	**17,964,010**	**19,981,464**	**19,028,951**	**15,960,392**	**7,508,150**	**9,017,301**

PUGET SOUND CHINOOK SALMON CATCH BY GEAR, 1935-1947

YEAR	INSIDE					OUTSIDE		Total Number of Fish Caught	YEAR
	GILL NET	PURSE SEINE	REEF NET	TROLL	INDIAN FISHERY*	PURSE SEINE	TROLL		
1935	44,041	25,784	640	674	4,898	15,657	140,938	**232,632**	1935
1936	48,345	17,957	791	633	11,063	6,374	230,271	**315,434**	1936
1937	37,903	25,289	1,193	838	4,720	10,178	199,571	**279,692**	1937
1938	34,367	17,359	1,034	433	5,163	153	116,902	**175,411**	1938
1939	34,887	17,573	1,986	669	5,933	2,385	122,402	**185,835**	1939
1940	48,195	14,877	2,019	655	5,047	4,298	231,264	**306,355**	1940
1941	43,958	20,940	1,339	113	5,819	11,543	175,174	**258,886**	1941
1942	20,206	17,005	2,051	3	2,748	5,071	158,498	**205,582**	1942
1943	30,480	20,368	1,442	1,034	3,267	12,964	154,741	**224,296**	1943
1944	37,460	18,826	1,496	2,504	7,507	1,150	98,783	**167,726**	1944
1945	45,239	29,734	2,268	1,550	8,710	2,859	118,394	**208,754**	1945
1946	23,975	28,545	4,692	336	3,526	338	219,990	**281,402**	1946
1947	22,191	14,537	1,705	668	3,726	5,008	197,348	**245,183**	1947

* Includes salmon taken by drag seines, set nets, and traps within the boundaries of Indian reservations.

1948 — CALIFORNIA FISH FREEZINGS — 1948

SPECIES	FROZEN DEC. 1947	FROZEN Jan. 1948	FROZEN FEBRUARY	FROZEN MARCH	FROZEN APRIL	FROZEN MAY	FROZEN JUNE	FROZEN JULY	FROZEN AUGUST	FROZEN SEPTEMBER	FROZEN OCTOBER	11 Month Total Frozen
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food	18,936	26,503	15,415	55,125	112,532	83,267	82,733	13,995	33,431	10,570	54,614	**507,121**
FILLETS:												
Flounder (including sole)	7,076	12,825	1,135		1,995	9,660	9,542	5,624	4,572	2,352	619	**55,400**
Lingcod						216						**216**
Mackerel		100				6,324	4,786	1,765	1,970	1,990	193	**17,128**
Other fillets	1,923	2,187	1,232	3,403	2,350	16,087	14,515	10,769	1,103	33,279	8,575	**95,423**
Flounder (including sole, fluke, Cal. halibut etc. excl. fillets)	10,217	1,632		800	1,618		10,765	55,735	2,922	3,193	3,895	**90,777**
Halibut	3,098									267		**3,365**
Mackerel (excl. fillets and Spanish and King)	17,134	6,379	960	252	3,182		89					**27,996**
Sablefish (Black Cod)							60			2,280	2,494	**4,834**
SALMON:												
King or Chinook										8,819	4,176	**12,995**
Silver or Coho									912	381		**1,293**
Fall or Chum	14,146									6,431	4,617	**25,194**
Unclassified	187						818		713			**1,718**
Shad (including roe shad							484					**484**
Shad roe					1,263	5,745						**7,008**
Smelt	540				2,197		260	570			3,600	**7,167**
Swordfish								2,922	60,098	62,200	36,551	**161,771**
Tuna		396						107	17,589	1,770		**19,862**
Unclassified	127,857	70,613	42,252	280,785	62,101	282,054	183,279	143,830	95,736	50,410	74,981	**1,413,898**
Total	**201,114**	**120,635**	**60,994**	**340,365**	**187,238**	**403,353**	**307,331**	**235,317**	**219,046**	**183,942**	**194,315**	**2,453,650**

FILLET IMPORTS TO U. S. — 1947 AND 1948

COUNTRY	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds
Canada	1,304,294	2,249,961	1,065,872	2,486,234	1,277,092	1,146,645	1,319,628	3,110,396	2,143,842	2,718,659	1,687,184	3,156,180
Newfoundland	255,510	1,268,331	261,880	1,357,480	592,350	974,150	339,910	1,114,275	281,400	1,352,990	302,020	1,500,912
Iceland	102		89,300	190,500	495,000	1,761,550	287,000	537,500		206,450	41,100	
England												
Total Pounds	**1,559,906**	**3,518,292**	**1,417,052**	**4,034,214**	**2,364,442**	**3,882,345**	**1,946,538**	**4,762,171**	**2,425,242**	**4,278,099**	**2,030,304**	**4,657,092**

COUNTRY	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		TOTAL, 11 MONTHS	
	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds	1947 Pounds	1948 Pounds
Canada	1,912,395	4,311,219	1,624,608	3,285,641	3,227,429	2,081,895	4,198,875	3,943,819	2,634,682	1,776,751	22,395,901	30,267,400
Newfoundland	326,820	2,079,026	309,060	1,731,100	988,480	821,142	1,053,084	2,033,955	812,706	1,021,282	5,523,220	15,254,643
Iceland		19,950	119,250	266,850	312,150		1,516,160	257,054		896,400	2,860,062	4,136,254
England						395,770						395,770
Total Pounds	**2,239,215**	**6,410,195**	**2,052,918**	**5,283,591**	**4,528,059**	**3,298,807**	**6,768,119**	**6,234,828**	**3,447,388**	**3,694,433**	**30,779,183**	**50,054,067**

this variety in packed frozen fillets in 1948.

All-in-all, it can be said that 1948 saw the fillet business make long gains in its efforts to attain a sound and stable peacetime position.

Freezing of Miscellaneous Varieties Restricted in 1948

It was in the field of freezing the scattered, minor, miscellaneous varieties that 1948 production took its principal decline. Reports for the year make it obvious that the market wanted substantial quantities of the staple lines, well packed, and often packaged, but that it was no longer interested in the substitute items, even though they might be cheap.

Sablefish Regains Position

It is noteworthy that in 1948 sablefish freezing regained the ground which it lost in 1947, when packing of this variety fell precipitately to 2,633,000 lbs. In 1948 it recovered to a pack of 8,570,000 lbs., which is the third best freeze of sablefish in the record—short only of 1946 and 1944.

Freezing for Transport; And Freezing for Canning

Development along these two lines was an outstanding feature of fish freezing on the Pacific in 1948, a

SAN PEDRO-SANTA MONICA AREA FRESH FISH LANDINGS

Species	November 1947	December 1947	January 1948	February	March	April	May	June	July	August	September	October	Total*
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Abalone	11,800	12,550	6,850		12,675	13,850	6,525	13,300	16,425	15,025	10,775	11,525	**106,950**
Anchovy	7,533	5,385	154,016	83,140	27,901	8,975	7,240	38,505	80,335	46,815	16,475	7,856	**471,258**
Baracuda	91,237	42,156	7,959	75,394	229,730	79,722	54,680	84,175	89,442	93,568	45,273	117,020	**876,963**
Cabrilla	10,340	17,016	17,280	46,833	17,821		926					2,561	**85,421**
California Halibut	9,577	8,514	17,567	43,302	37,757	45,101	11,579	14,188	11,591	4,584	7,601	6,501	**199,771**
Flying Fish							11,698	26,514	10,128	980			**49,320**
Grouper	7,412	7,610	20,709	18,755	5,917		2,955	13,082				2,123	**63,541**
Jack Mackerel	408,888	144,743	39,964	37,619	15,145	39,393	1,792	1,647	2,641	16,256	17,056	14,073	**185,586**
Kingfish	12,372	10,935	7,274	12,039	32,052	32,658	22,413	9,174	17,668	21,491	11,708	18,368	**184,845**
Lingcod												150	**150**
Livers	785	532				787	1,764	1,843	420	207	307	769	**6,097**
Mackerel	255,402	145,106	128,787	30,656	31,025	11,633	64,898	89,424	141,734	204,797	1,008,497	337,861	**2,049,312**
Mullet		2,616											
Perch	10,151	8,268	17,755	17,804	14,332	5,825	1,530	1,855	5,825	651	497	2,448	**68,522**
Pilchards	607,654	55,589	18,082	186,917	170,784	173,566	142,603	48,805	25,445	55,807	413,663	857,903	**2,093,575**
Pompano	2,941	8,301	4,291	1,028	3,747	4,001	1,133	2,960	1,029	1,894		1,309	**21,392**
Rock Bass	4,523	2,852	1,093	257	1,374	1,127		2,468	6,880	2,453	3,525	7,841	**27,018**
Rockfish	26,735	38,511	39,752	28,169	21,714	23,254	22,919	17,929	4,811		1,059	16,243	**175,850**
Sculpin	2,272	1,302	1,141	3,723	9,012	10,658	7,095	13,988	17,681	12,994	1,162	1,489	**78,943**
Sea Bass: Black	19,406	10,035	4,047	1,786	9,070	991	14,152	866	11,808	994	4,475	124	**48,313**
White	9,135	1,968	495	9,757	4,725	19,393	57,084	102,880	71,915	44,336	56,485	8,582	**375,652**
Skate	777	291	331	1,224	1,534	1,747	257		471		330	545	**6,439**
Shark	3,052	6,494	1,079	4,591	4,019	20,134	27,309	21,511	20,986	9,178	7,237	10,821	**126,865**
Sablefish			395		384							185	**964**
Smelt	15,986	13,784	15,539	9,920	14,430	10,642	969	6,179	5,117	6,533	6,531	7,186	**83,046**
Sand Dabs								109				261	**370**
Sheepshead	2,378	3,677	5,535	2,495	1,882	2,187	544	1,716				3,036	**17,395**
Spiny Lobster	34,990	29,752	25,494	9,041	8,393							41,104	**84,032**
Squid	26,740	4,950		7,270	440			420		2,248			**10,378**
Swordfish	4,700							561	4,211	23,487	42,851	40,297	**111,407**
Sole, unclassified		175			113	248							**361**
Tuna: Albacore	1,148								9,942	32,582	15,804	26,443	**84,771**
Bluefin			30,732	42,862	7,247	1,620		3,456	30,642	88,416	41,126		**246,101**
Bonito	107	820	2,243	915	4,909	305	1,981	12,103	3,534	1,083	117	210	**27,400**
Skipjack	139										313	4,988	**5,301**
Whitefish	1,216	2,419	4,414	1,871	1,348	2,284		100	125			212	**10,354**
Yellowtail	48,047	13,387	1,432	309	2,936	2,764	12,982	259	1,060	33,618	13,346	3,932	**72,638**
Miscellaneous	4,427	4,580	4,604	4,091	9,021	12,293	7,018	6,351	6,279	5,740	4,890	5,951	**66,238**
Total	**1,641,870**	**604,318**	**578,860**	**681,768**	**701,437**	**525,158**	**484,046**	**536,368**	**598,145**	**725,737**	**1,731,103**	**1,559,917**	**8,122,539**

* Totals cover the 10 months of 1948 only.

Annual Landings of Columbia River Chinook Salmon, 1935-1947

(Pounds of Fish Landed)

Year	Washington			Oregon			Total		**GRAND TOTAL**	Year
	Inside Catch	Outside Catch	Total (Pounds)	Inside Catch	Outside Catch	Total (Pounds)	Inside Catch	Outside Catch		
1935	4,178,455	41,395	4,219,850	10,951,942	212,911	11,164,853	15,130,397	254,306	**15,384,703**	1935
1936	3,669,381	332,778	4,002,159	11,995,416	649,151	12,644,567	15,664,797	981,929	**16,646,726**	1936
1937	5,060,726	197,890	5,258,616	13,372,100	357,291	13,729,391	18,432,826	555,181	**18,988,007**	1937
1938	3,287,242	116,726	3,403,968	9,203,673	168,902	9,372,575	12,490,915	285,628	**12,776,543**	1938
1939	3,994,032	180,261	4,174,293	9,529,944	193,834	9,723,828	13,524,026	374,095	**13,898,121**	1939
1940	3,816,659	255,169	4,071,828	9,703,848	328,136	10,031,984	13,520,507	583,305	**14,103,812**	1940
1941	6,483,035	415,694	6,898,729	16,731,545	830,514	17,562,059	23,214,580	1,246,208	**24,460,788**	1941
1942	5,879,548	389,099	6,268,647	12,802,407	336,103	13,138,510	18,681,955	725,202	**19,407,157**	1942
1943	3,173,340	122,662	3,296,002	8,281,457	239,077	8,520,534	11,454,797	361,739	**11,816,536**	1943
1944	4,723,839	288,992	5,012,831	9,282,761	516,094	9,798,855	14,006,600	805,086	**14,811,686**	1944
1945	4,025,483	321,465	4,346,948	8,939,563	1,014,944	9,954,507	12,965,046	1,336,409	**14,301,455**	1945
1946	4,394,038	578,521	4,972,559	9,792,239	1,057,735	10,849,974	14,186,277	1,636,256	**15,822,533**	1946
1947	5,436,474	489,047	5,925,521	11,724,803	585,483	12,309,286	17,161,277	1,164,067	**18,234,807**	1947
1948			4,117,113			12,355,495			**16,472,608**	1948

HALIBUT FREEZING IN CANADA BY MONTHS

Year	Jan. Pounds	Feb. Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	Aug. Pounds	Sept. Pounds	Oct. Pounds	Nov. Pounds	Dec. Pounds	**Total Pounds**
1944	*	273,600	348,847	86,289	314,432	5,465,098	3,232,596	802,380	499,926	436,090	171,886	195,405	**11,826,549**
1945	394,811	222,238	240,413	220,018	3,489,342	3,408,109	806,167	616,499	809,728	598,622	623,475	362,478	**11,846,900**
1946	183,346	344,076	*	10,869	4,558,350	3,798,912	849,659	1,415,986	335,440	174,361	304,517	166,185	**12,141,701**
1947	332,759	217,645	358,022	167,994	6,059,714	4,782,689	2,186,016	2,566,073	287,595	206,741	52,711	17,092	**17,235,051**
1948	*	68,080	4,843	19,527	7,375,431	4,529,483	1,540,997	210,676	276,248	46,438	*	*	**14,071,723**

* Data not available.

Holdings of Frozen Halibut in Canada by Months

Year	Jan. Pounds	Feb. Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	Aug. Pounds	Sept. Pounds	Oct. Pounds	Nov. Pounds	Dec. Pounds	Year
1943	5,242,676	4,320,049	3,748,295	2,286,881	1,491,511	2,828,237	3,939,869	4,936,049	5,036,145	4,441,290	4,148,370	3,579,111	1943
1944	2,663,858	2,090,295	1,570,619	1,112,071	832,899	666,559	3,982,472	6,996,135	6,913,959	6,123,579	5,207,489	3,160,551	1944
1945	2,883,152	2,587,185	1,585,107	1,186,513	4,430,285	7,063,574	6,459,904	6,120,636	5,273.785	4,534,217	2,873,663	2,344,970	1945
1946	1,470,592	1,187,954	717,231	225,343	5,499,251	9,547.890	9,236,955	9,359,891	8,039,316	7,067,600	6,299,440	2,348,945	1946
1947	4,174,128	3,589,922	2,680,602	1,282,144	7,139,603	10,209,201	11,984.345	13,381,987	11,492,871	9,752,392	9,065,581	9,073,950	1947
1948	8,293,239	6,637,670	5,253,851	3,347,939	2,311,874	9,051,008	10,716,236	11,195,807	8,334,633	8,610,575	4,402,990	*	1948

* Data not available.

year which may stand as a point of departure for an important and almost wholly new development within the business.

Success of the King crab fishing and freezing operations in the Bering Sea was much more definite in 1948 than in previous years, and the experience of that season pointed strongly toward freezing rather than canning as the probable course which American development of this fishery would follow.

In 1948 there was a decided increase in the interest paid to the possibility of freezing salmon during periods of high production in Alaska and bringing it to the Pacific States for subsequent canning in plants there during the off-season.

Ventures of this sort are akin to the freezership or mothership enterprises which have been developing in the tuna fisheries.

Frozen Shellfish Attains Large Volume in Year 1948

A noteworthy element in Pacific fish freezing for 1948 was the remarkable degree to which shellfish of some classifications was packed by freezing.

Accompanying figures, which admitterly fall materially short of being complete, show the freezing of shellfish to the amount of almost 1,500,000 lbs.

It should be noted that this figure does not include squid, which in recent years has been frozen in rather large quantities in California, notably at Monterey.

Undoubtedly the most notable element in the recent rise in shellfish freezing is in crabmeat, both Pacific and King varieties.

Much Pacific Crabmeat Is Frozen During 1948

It is particularly worthy of note that Pacific crabmeat freezing advanced very sharply in 1948. This was doubtless due in part to the heavy production of crabs during the year—as reflected in the all-time record pack of canned crab.

In spite of this heavy use of crab for canning, it is believed that freezing of crabmeat reached levels not previously attained.

Some of the largest canned crab operators, notably in Alaska and Oregon, diverted a very substantial portion of their crabmeat to the frozen pack instead of sending it to the cannery.

Three Expeditions Operate On Alaska King Crab

There were three operations based on Alaska King crab in 1948, although in the case of the activity of the factory ship *Pacific Explorer* the freezing of crabmeat was secondary to canning. In addition to her pack of more than 18,000 cases of canned crab, the *Pacific Explorer* froze an experimental lot of King crabmeat.

This operation was of experimental character, conducted by the United States government with the Pacific Exploration Co. as contract agent.

With a valuable background of experiment, the commercial operators in 1948 were able substantially to improve their catches of crab.

Razor Clam Freezing Gains

Reporting on frozen razor clams presents some difficulties because of the large degree to which these clams are frozen for crab bait. The accompanying table seeks to present data only on clams frozen for human food, but it is possible that some quantities frozen for bait have been included.

Certain it is that there has been some steady and rather important advance in the freezing of razor clams for food.

Armed Services Are Customers For Frozen Pacific Oysters

Freezing of shucked Pacific oysters moved up again in 1948 with the renewal of buying in this field by the armed services, who are leading customers for oysters in this pack.

The civilian market also continues to take substantial quantities of frozen oysters, generally in No. 10 tins.

FILLET IMPORTS BY COUNTRIES – 1946 TO 1948

Year	Canada	Newfoundland	Iceland	England	Denmark	Norway	Sweden	**TOTAL**
1946	38,950,523	5,899,856	4,720,618	47	2,150	1,756	14	**49,574,964**
1947	24,707,690	6,231,920	2,579,882	...	...	...	...	**33,519,492**
1948	30,267,400	15,254,643	4,136,254	395,770	...	...	...	**50,054,067** *

* Eleven-month total.

Accelerated production of halibut, resulting from a larger fleet fishing a more abundant population, took the 1948 quotas in a fishing period shorter than any ever recorded for the industry.

Moreover, the dizzy speed with which the catch was made overtaxed handling and marketing facilities and produced economic stresses recognized as representing a condition which demanded solution before it became critical.

More fish on the grounds, more boats and men fishing for them, with the aggregate catch limited by quota; combined to produce a new speed record in the Pacific halibut industry in 1948—together with marketing problems resulting from a full catch coming to the ports in the shortest period ever known.

The aggregate catch for the year —55,764,000 lbs.—did not vary materially from the pattern of the previous season.

Division of the 1948 catch between the fleets of the United States and Canada returned to more normal pattern than the slit of 1947, when the fishing suspension on the part of the Seattle fleet for most of the season gave the Canadians an excessive proportion of the catch.

The year 1948 saw the Canadian fishermen take 34.3 of the halibut landings, substantially larger percentage than in any previous year with the exception of 1947, which was definitely out-of-line because of the American strike.

Eliminating 1947 from consideration, the Canadians in 1948 took the majority of the Area 2 fish for the first time in the history of the fishery; and ran their percentage of the Area 3 catch to 16.2, higher than ever before.

There is good reason to believe that the Canadian dominance of the Area 2 fishery in 1948 is the direct result of the rise of "camp fish" as a factor in the Canadian production. This new element in the industry is the fishery based upon day-boat operations from the Canadian outports, where small vessels make short trips and land their fish daily at camps, where they are picked-up by tenders and carried to packing points.

Plain evidence of the speed with which the 1948 halibut catch is

Pacific Halibut Catch by Areas and Nationalities--1932 to 1948

YEAR	AREA 1	AREA 2†			AREA 3			TOTAL AMERICAN	TOTAL CANADIAN	Grand Total	YEAR
	AMERICAN	AMERICAN	CANADIAN	**Total**	AMERICAN	CANADIAN	**Total**				
	Pounds	Pounds	Pounds	**Pounds**	Pounds	Pounds	**Pounds**	Pounds	Pounds	**Pounds**	
1932	902,271	16,026,631	5,960,640	**21,987,271**	21,146,037	451,761	**21,597,798**	38,074,939	6,412,401	**44,487,340**	1932
1933	722,254	14,880,259	7,649,400	**22,529,659**	22,887,941	637,072	**23,525,013**	38,490,454	8,286,472	**46,776,926**	1933
1934	1,541,258	13,360,103	9,004,714	**22,364,817**	22,829,989	726,658	**23,556,648**	37,731,350	9.731,372	**47,462,722**	1934
1935	*1,489.294	13,112,709	8,954,740	**22,067,449**	22,532,977	1,251,314	**23,784,291**	37,134,980	10,206,054	**47,341.034**	1935
1936	708,301	13,865,731	8,696.865	**22,562,596**	23,717,665	1,887,788	**25,605,453**	38,291,697	10,584,653	**48,876,350**	1936
1937	709,752	13,445,575	9,852,348	**23,297,923**	23,551,917	1,912,966	**25,464,883**	37,707,244	11,765,314	**49,472,558**	1937
1938	706,316	13,737,819	9,571,461	**23,309,280**	22,820,005	2,623,208	**25,443,213**	37,264,140	12,194,669	**49,458,809**	1938
1939	1,072,675	13,466,002	10,913,035	**24,379,037**	22,761,120	2,552,125	**25,313,245**	37,299,797	13,465,160	**50,764,957**	1939
1940	779,036	14,395,547	11,101,558	**25,497,105**	25,396,243	1,582,314	**26,978,557**	40.570,826	12,683,872	**53,254,698**	1940
1941	332,259	13,332,247	10,609,166	**23,941,413**	25,590,281	2,350,333	**27,940,614**	39,254,787	12,959,499	**52,214.286**	1941
1942	285,621	14,046,982	9,147,146	**23,194,128**	24,903,636	2,054,745	**26,958,381**	39,236,239	11,201,891	**50,438,130**	1942
1943	419,944	13,740,543	11,116,583	**24,857,126**	26.569,949	1,790,540	**28,360,489**	40,730 436	12,907.123	**53.637.559**	1943
1944	318,689	14,957,704	11,149,714	**26,107,418**	24,782.581	2,190,459	**26,973,040**	40,058,974	13,340,173	**53,399,147**	1944
1945	529,000	13,230,000	11,750,000	**24,980.000**	25,605,000	3,551,000	**29,156,000**	39,364,000	15,301,000	**54,665.000**	1945
1946	605,000	14,068.000	14,451,000	**28,519,000**	27,067.000	4,058,000	**31,125,000**	41,740.000	18,509,000	**60,249,000**	1946
1947	406,000	10,387,000	17,175,000	**27,562,000**	20,869,000	7,081,000	**27,950,000**	31,662,000	24,256,000	**55,918,000**	1947
1948	241,000	13,105,000	14,501,000	**27,606,000**	23,383,000	4,534,000	**27,917,000**	36,729,000	19,035,000	**55,764,000**	1948

† Figures for Area 2 for 1937 and thereafter include halibut which were taken incidentally to cod fishing after the closure of Area 2, as allowed by regulations of the International Fisheries Commission for these years. The approximate amounts are: 278,000 lbs. in 1937; 280,000 in 1938; 372,943 lbs. in 1939; 304,155 lbs. in 1940; 510,204 lbs. in 1941; 55,895 lbs. in 1942; 856,360 lbs. in 1943; 844,596 lbs. in 1944; 920,000 lbs. in 1945; 1,184,000 lbs. in 1946; 392,997 lbs. in 1947; 898,246 lbs. in 1948.

* This figure includes landings from Areas 1 and 4, as defined in the regulations for 1935. This amount should compare directly with the Area 1 catch of previous years, as it is not believed any fish were landed in 1935 from that portion of Area 4 which included Bering Sea.

NOTE.—1948 figures of the International Fisheries Commission are preliminary and subject to further correction.

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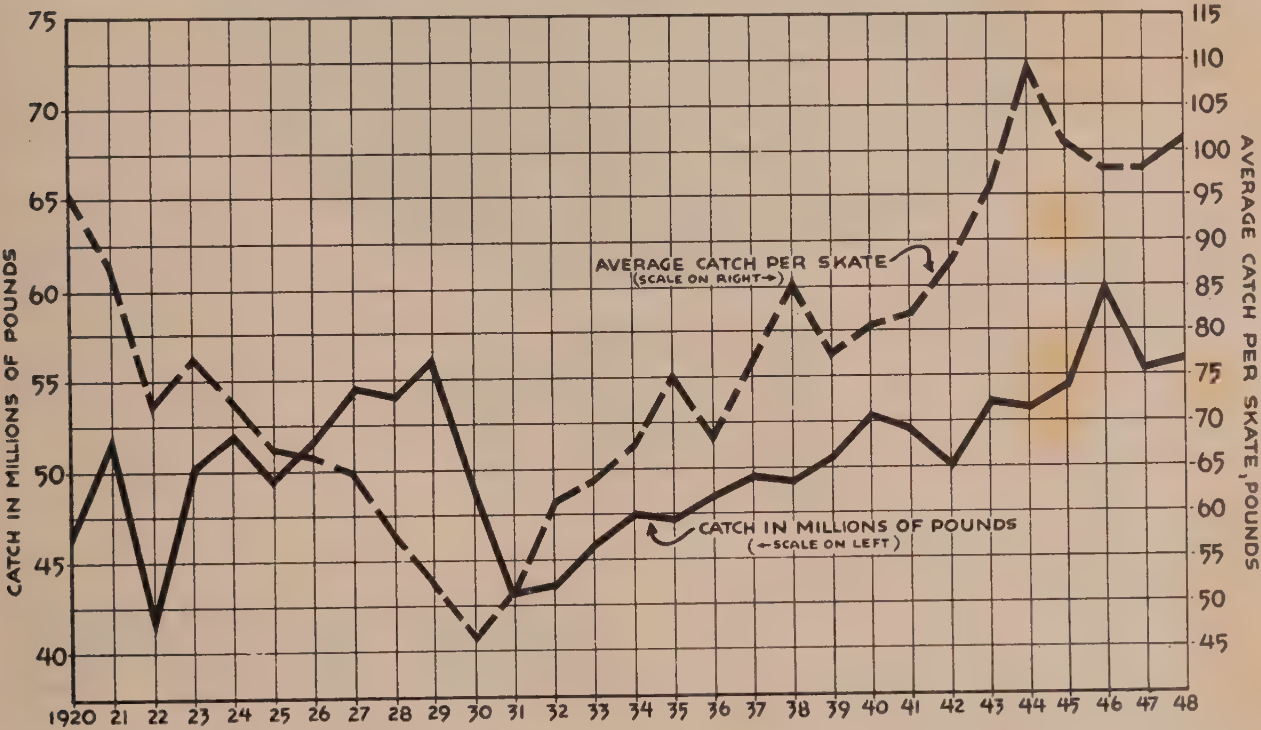
HOW RESEARCH REVERSED DEPLETION IN PACIFIC HALIBUT

(Based on data furnished by the International Fisheries Commission for total Pacific halibut landings and the weighted average catch per skate of gear from Areas 2 and 3 combined.)



The graph above shows the steady decline in abundance of Pacific halibut, as measured in the average catch per skate of gear, from 96 lbs. in 1920 to 47 lbs. in 1930, and then its gradual recovery under the effect of regulation prescribed by research, until it exceeded 100 lbs. The curve representing the total catch in millions of pounds shows how the catch was sustained during the late '20s by a greatly increased fleet, which kept the catch up for a time in spite of falling abundance. With the increase in abundance as result of applied research, the total catch has risen steadily to a point above the peaks of earlier years. The International Fisheries Commission was created in 1924. The decline in abundance continued during the years of research. Finally a new treaty was enacted in 1930 to give this commission regulatory powers. It was ratified in 1931 and regulation was begun in 1932. The up-turn in abundance in 1931 and 1932 may be ascribed to effect of the closed season imposed by the original treaty.

landed is furnished by the fact that the season closed at midnight, June 1, after only 32 days of fishing. This period of barely more than a month sufficed to catch a quota of 25,500,000 lbs., which had been increased by the International Fisheries Commission by 1,000,000 lbs. over that for the previous year.

The Area 3 season closed on July 11 after 72 days of fishing, again the shortest season on record.

Western Alaska Landings Show Substantial Increases

One of the features of the Area 3 fishery in 1948 was the increasing extent to which the fish taken in that area was landed at the area's ports. For example, the Port Williams, Cordova, LaTouche, Valdez, Seward, Anchorage, Seldovia and Sand Point landings in 1948 aggregated 4,797,000 lbs., an increase of approximately 1,400,000 lbs. over the previous year.

This gain can be attributed directly to the opening of cold storage facilities at Sandpoint, in the Shumagin Islands, that station having received halibut landings approximately in the amount of the Western Alaska increase.

Ketchikan remained the principal Alaskan halibut port, although its 1948 business declined rather sharply from that of the year previous.

Marketing Is Marked by Unusual Tendencies in 1948

Halibut pricing during the 1948 season showed sharp reduction from the level of the previous year, due in part to the carryover of frozen stock as the 1948 season opened. It is obvious that the deliveries early in 1948 fishing were so heavy that

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PACIFIC HALIBUT CATCH SINCE 1914

YEAR	AMERICAN VESSELS					CANADIAN VESSELS			Grand Total	PRICE AT SEATTLE	YEAR
	SEATTLE *	PRINCE RUPERT **	ALASKA	OREGON AND CALIFORNIA ***	TOTAL AMERICAN	PRINCE RUPERT, BUTEDALE, KLEMTU	VANCOUVER, NEW WESTMINSTER VANCOUVER I.	TOTAL CANADIAN §			
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Cents	
1914	41,825,575	1,877,000	5,175,993	....	48,878,568	8,742,100	4,991,500	13,733,600	**62,612,168**	4.7	1914
1915	33,133,313	11,323,500	5,561,577	....	50,018,390	8,444,715	4,791,000	13,235,715	**63,254,105**	6.7	1915
1916	20,259,446	13,810,895	6,961,628	....	41,031,969	6,710,500	5,258,000	11,968,500	**53,000,469**	9.8	1916
1917	22,884,434	14,216,030	6,792,138	....	43,892,602	5,839,030	3,686,000	9,525,030	**53,417,632**	14.6	1917
1918	16,455,564	10,790,500	6,076,500	....	33,322,564	4,338,000	1,552,000	5,890,000	**39,212,564**	18.3	1918
1919	16,968,639	13,000,700	7,366,991	....	37,336,330	6,120,000	1,957,000	8,077,000	**45,413,330**	16.5	1919
1920	19,692,915	14,676,400	8,035,000	....	42,404,315	7,190,000	2,010,600	9,200,600	**51,604,915**	17.2	1920
1921	17,127,783	19,531,400	8,784,029	....	45,443,212	8,906,000	4,149,400	13,055,400	**58,498,612**	13.5	1921
1922	14,602,780	17,248,900	4,772,038	....	36,623,718	8,510,000	3,559,500	12,069,500	**48,693,218**	6½-32	1922
1923	12,017,312	20,366,600	8,283,590	....	40,667,502	9,392,900	3,707,200	13,100,100	**53,767,602**	12-55	1923
1924	11,889,080	20,913,200	12,663,776	....	45,466,056	8,181,500	4,043,500	12,225,000	**57,691,056**	11¾-33¼	1924
1925	11,197,474	22,434,800	9,752,465	400,000	43,784,739	6,181,600	3,207,600	9,389,200	**53,169,939**	8-49	1925
1926	10,156,630	20,483,800	14,011,005	600,000	45,252,435	6,869,200	4,156,500	11,025,700	**56,278,135**	12¼-47	1926
1927	11,917,150	18,664,400	15,386,766	400,000	46,818,316	6,941,000	1,523,400	8,464,400	**55,282,716**	10⅝-55	1927
1928	13,788,775	20,389,700	9,623,700	760,000	44,562,175	8,349,500	1,541,500	9,891,000	**54,453,175**	7-49	1928
1929	12,359,170	20,599,200	12,882,426	1,103,888	46,890,984	8,045,100	1,747,800	9,792,900	**56,683,884**	10-71	1929
1930	12,671,470	16,997,800	11,389,756	930,000	41,989,832	7,006,600	1,475,200	8,481,800	**50,471,632**	6-30	1930
1931	15,087,672	10,573,300	9,638,150	953,000	36,252,122	6,202,400	1,424,800	7,627,200	**43,879,322**	7.26	1931
1932	22,000,296	10,633,800	4,568,829	1,050,000	38,253,025	4,227,700	2,023,200	6,250,900	**44,503,925**	4.54	1932
1933	22,263,992	8,757,300	6,781,451	679,066	38,461,454	5,649,200	2,630,700	8,300,255	**46,761,709**	6.51	1933
1934	20.718,328	8,591,983	7,132,059	1,288,980	37,731,350	7,946,499	1,784,873	9,731,372	**47,462,722**	7.45	1934
1935	22,388,941	6,927,014	6,538,114	1,280,911	37,134,980	7,636,694	2,563,276	10,206,054	**47,341,034**	8.27	1935
1936	22,726,642	6,204,645	8,654,364	705,646	38,291,697	8,111,472	2,468,936	10,584,653	**48,876,350**	8.76	1936
1937	21,351,684	7,017,857	8,646,993	690,710	37,707,244	9,032,623	2,711,562	11,765,314	**49,472,558**	9.09	1937
1938	20,995,966	7,324,178	8,220,752	704.734	37,264,140	8,617,890	3,384,569	12,194,669	**49,458,809**	8.35	1938
1939	20,070,259	9.319,026	6,897,208	1,013.304	37,299,797	9,904,372	3,466,362	13,465,162	**50,764,957**	8.69	1939
1940	18,863,872	11,210,740	9,481,893	1,014,321	40,570,826	9,323,133	3,355,516	12,683,872	**53,254,698**	10.30	1940
1941	19,095,973	10,036,640	8,998,580	1,123,594	39,254,787	8,708,902	4,173,967	12,959,499	**52,214,286**	11.82	1941
1942	14,865,306	13,430,294	10,169,162	771,477	39,236,239	5,997,895	5,203,996	11,201,891	**50,438,130**	16.95	1942
1943	13,278,341	12,309,595	14,096,356	1,046,144	40,730,436	6,281,348	6,487,010	12,907,123	**53,637,559**	22.40	1943
1944	11,881,680	5,444,672	21,853,111	879,511	40,058,974	8,458,974	4,823,502	13,340,173	**53,399,147**	16.87	1944
1945	12,651,000	4,571,000	21,049,000	1,093,000	39,364,000	11,606,000	3,503,000	15,301,000	**54,665,000**	16.84	1945
1946	13,932,000	4,384,000	22,502,000	928,000	41,740,000	15,117.000	2.919,000	18,509,000	**60,249,000**	21.31	1946
1947	5,816,000	2,585,000	22,422,000	841,000	31,664,000	17,868,000	6,117,000	24,255,000	**55,919,000**	24.96	1947
1948	10,005,000	2,480,000	23,655,000	589,000	36,729,000	13,668,000	5,188,000	19,035,000	**55,764,000**	20.70	1948

Up to 1921 the figures given are estimated averages for No. 1 halibut. From 1922 to 1930, inclusive, they are the extreme ranges of prices paid for No. 1 halibut. Beginning with 1931 they represent the official average price of all halibut landed at Seattle, as computed from the statistics of the U. S. Bureau of Fisheries.

*Includes the very small amount of fish landed at Neah Bay and elsewhere on Puget Sound.

**Includes the fish occasionally landed by American vessels at Butedale, Vancouver and elsewhere in Canada.

***Landings in Oregon and California not segregated prior to 1925.

§Totals include halibut landed by Canadian vessels in American ports. In 1938 such landings included 166,516 lbs. landed at Seattle and 25,694 lbs. landed in Alaska. In 1939 they included 79,533 lbs. landed at Seattle and 14,895 lbs. landed in Alaska. In 1940, they included 5,223 lbs. landed in Alaska. In 1941, the inclusions were 60,673 lbs. landed in Seattle and 15,957 lbs. in Alaska. In 1942, included 65,680 lbs. landed in Alaska. In 1943, included 44,199 lbs. in Alaska and 94,566 lbs. at Seattle. In 1944, included 59,211 lbs. landed in Alaska. In 1945 included 192,000 lbs. landed in Alaska. In 1946, included 473,000 lbs. landed in Alaska. In 1947 included 270,000 lbs. landed in State of Washington. In 1948 included 179,000 lbs. landed in Alaska.

NOTE:—1948 figures of the International Fisheries Commission are preliminary and subject to further correction.

they could not be marketed fresh at fancy prices, and that it was only with extreme difficulty that they could be frozen.

Freezing of much of the halibut nevertheless was necessary because of the long period during which it would have to be marketed.

Canadian Halibut Marketed In Seattle in Quantity

One of the exceptional features of the 1948 halibut pattern was the shipment of substantial quantities of Canadian halibut into the United States at Seattle over the duty. It usually was offered to the trade at a shade under the domestic price prevailing on the exchange for that day.

Along about the middle of May it was a dull day which did not see 100,000 lbs. of Canadian halibut for sale in Seattle, and on May 11 the Canadian fish offered on the market actually exceeded the combined landings of the American vessels, plus shipments of domestic halibut from outports.

Canadian "Camp" Fish Again an Important Factor

"Camp fish" operations on the Canadian coast again proved a matter of some importance as they piled-up substantial volume and carried the landings at minor ports to the highest levels on record.

This trade was considered by

SIZE OF HALIBUT FLEET

(Includes Regular Halibut Boats Only)

YEAR	UNITED STATES FLEET				CANADIAN FLEET				COMBINED FLEETS			
	AREA 2	AREA 2	AREA 3	AREA 3	AREA 2	AREA 2	AREA 3	AREA 3	AREA 2	AREA 2	AREA 3	AREA 3
	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MDN	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MEN
1943............	247	1,037	107	942	162	767	3	24	409	1,804	110	966
1944............	278	1,056	84	753	278	831	4	34	485	1,887	88	767
1945............	316	1,253	97	837	175	867	3	26	491	2,120	100	863
1946............	373	1,373	116	921	187	952	5	41	560	2,325	121	962
1947............	350	1,302	119	887	215	1,168	5	40	565	2,470	124	927
1948............	379	1,449	139	1,020	194	1,065	5	39	573	2,514	144	1,119

NOTE:—1948 figures are preliminary only and subject to further correction.

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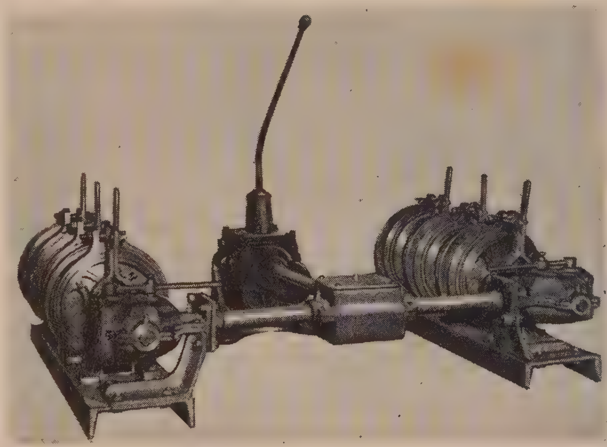
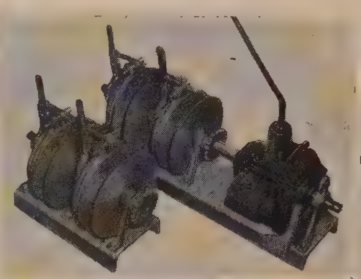
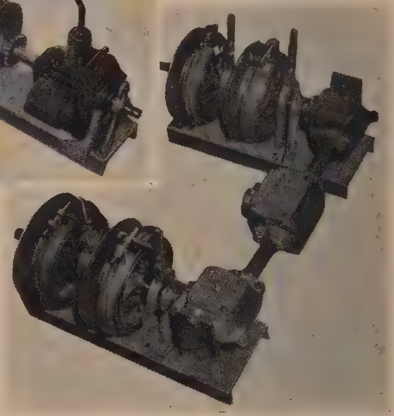


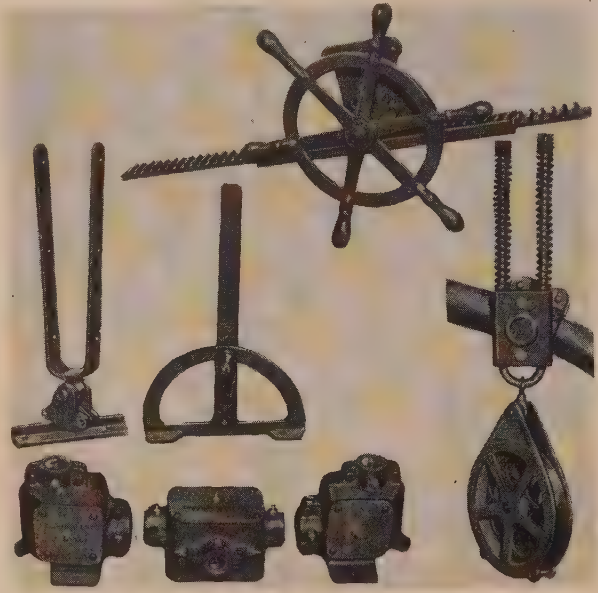
Above, in this six-spool AKERVICK Trolling Gurdy two angle boxes have been eliminated by running the shaft straight across, with reverse gears on the flat.



Above, four-spool AKERVICK Trolling Gurdy showing transmission assembled to chain drive, which may be at either end of the gurdies.

Below, four - spool AKERVICK Trolling Gurdy, with angle boxes and tee-gear box.





Top, AKERVICK Trolling Cockpit Wheel. Right, AKERVICK Bow Line Shock Absorber on davit, with trolling block attached. Left, AKERVICK Bow Pole Swivel Mount, which permits pole to swing in any direction or position. Center, AKERVICK Throttle Control for attachment to boom over trolling cockpit for controlling engine speed. Bottom, left and right, AKERVICK Angle Gear Boxes, with AKERVICK Tee-Gear Box between.

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1948--HALIBUT ARRIVALS AT ALASKA PORTS--1948

MONTH	KETCHIKAN	WRANGELL	PETERSBURG	SITKA	JUNEAU	PELICAN CITY	MISCELLANEOUS, S. E. ALASKA*	WESTERN ALASKA**	TOTAL
May	3,368,000	365,000	1,625,000	1,474,000	1,601,000	1,243,000	59,000	978,000	**10,713,000**
June	3,265,000	231,000	621,000	1,198,000	980,000	1,038,000	54,000	3,241,000	**10,628,000**
July	838,000	108,000	163,000	122,000	156,000	104,000		577,000	**2,068,000**
August	16,000	9,000	57,000	12,000	47,000	8,000		1,000	**150,000**
September	6,000	2,000	20,000	1,000	22,000	6,000			**57,000**
October	10,000	3,000	9,000	1,000	13,000				**36,000**
November				1,000	2,000				**3,000**
Totals	**7,503,000**	**718,000**	**2,495,000**	**2,809,000**	**2,821,000**	**2,399,000**	**113,000**	**4,797,000**	**23,655,000**

* Tyee, Kugani Harbor, Kelly Cove, Port Alexander. ** Port Williams, Cordova, La Touche, Valdez, Seward, Anchorage, Seldovia, Sand Point.

NOTE:—1948 figures of the International Fisheries Commission are preliminary and subject to correction.

PREVIOUS YEARS

YEAR	KETCHIKAN	WRANGELL	PETERSBURG*	SITKA	JUNEAU**	WESTERN ALASKA	TOTAL
1947	7,503,000	643,000	2,828,000	2,634,000	5,432,000	3,389,000	**22,429,000**
1946	9,871,000*	693,000	2,807,000	2,366,000	4,384,000	2,359,000	**22,480,000**
1945	9,344,000	606,000	2,227,000	2,775,000	3,916,000**	2,181,000	**21,049,000*** **
1944	9,554,962	1,008,312	2,486,084	2,694,073	3,540,637	2,569,043	**21,853,111**
1943	7,450,730	727,157	1,936,825	1,691,697	2,289,947		**14,096,356**
1942	5,749,469	469,037	1,559,221	834,046	1,816,148		**10,169,162**
1941	3,367,567	375,135	1,463,801	2,173,697	1,616,928		**8,998,580**
1940	3,798,134	400,735	1,718,490	1,370,412	1,984,511		**9,481,893**
1939	2,263,927	279,660	1,460,190	931,557	2,001,999		**6,897,208**
1938	2,828,111	414,928	1,965,843	906,852	2,039,814		**8,220,752**
1937	3,642,996	590,834	1,352,807	893,602	1,832,533		**8,646,993**
1936	3,556,364	494,221	1,979,813	945,933	1,541,674		**8,654,364**
1935	3,752,488	112,060	474,672	667,811	1,341,864		**6,538,114**
1934	3,155,474	284,950	1,002,792	1,172,264	1,463,761		**7,132,059**

* Includes nearby miscellaneous ports. ** Includes Pelican City landings.

*** Does not include 472,000 pounds of halibut landed at Alaska ports by Canadian vessels, from June to October.

those close to the halibut regulatory picture as constituting a most serious problem in any attempt to work-out the matter of protracting the halibut season to a period which would eliminate some of the uneconomic aspects of the extremely brief season.

Change in Buying Habits Affects Chicken Halibut

Outstanding halibut sellers reported in 1948 that there could no longer be any doubt that the lag in consumer demand for halibut frozen in consumer packages had been overcome, and that steaked halibut had come at last into overpowering demand.

This call for frozen packaged halibut produced a difficult situation in a season when the fish was being landed in volume which made it impossible to prepare the fresh fish for freezing in packaged steaks. While fish had to be frozen for subsequent sawing, with resultant greater waste and higher cost.

One influence of the trend toward packaging was a depressed price for chickens. Where formerly the small size of halibut had a good deal of demand for whole fish sales, dealers reported that the trade's interest in chix had waned materially. From the packaging standpoint these small fish were not at all desirable, particularly because of the greater per-

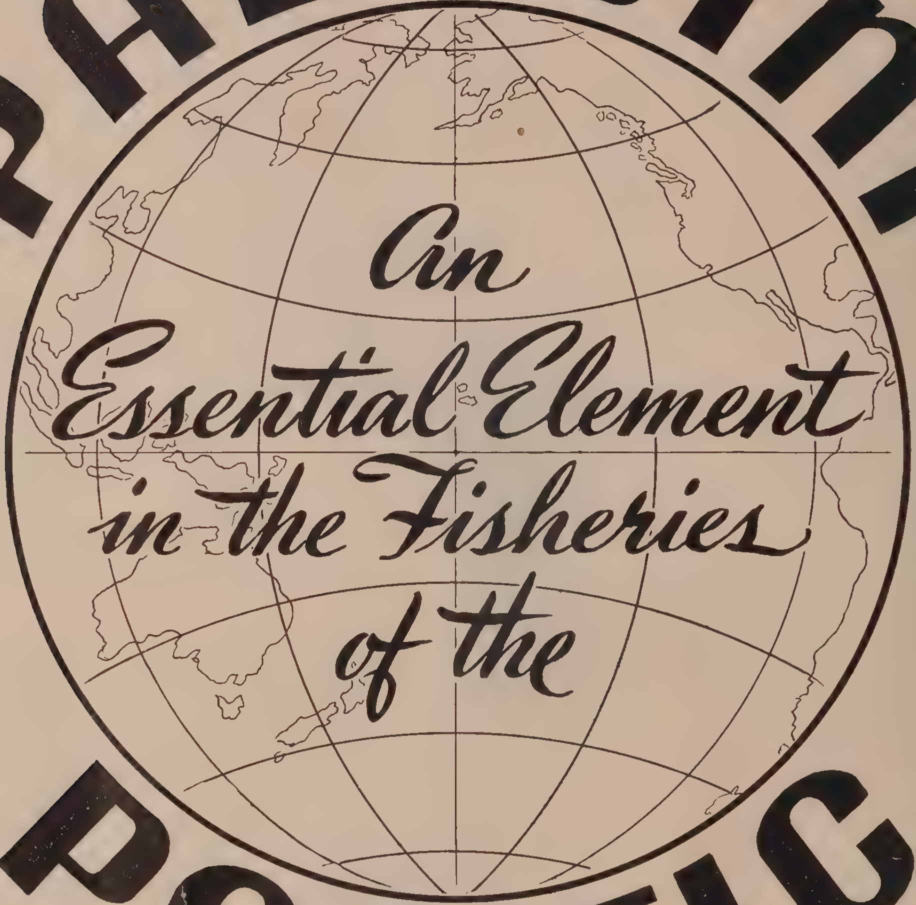
1948--Halibut Arrivals at British Columbia Ports--1948

MONTH	PRINCE RUPERT, BUTEDALE AND KLEMTU	NEW WESTMINSTER, VANCOUVER AND NAMU	DISTRICT NO. 3 AND VICTORIA	TOTAL CANADIAN VESSELS	AMERICAN VESSELS AT PRINCE RUPERT	GRAND TOTAL
May	7,498,000	1,650,000	1,991,000	11,139,000	896,000	**12,035,000**
June	4,492,000	805,000	448,000	5,745,000	1,366,000	**7,111,000**
July	1,525,000	258,000		1,783,000	214,000	**1,997,000**
August	93,000	12,000		105,000	3,000	**108,000**
September	42,000	6,000		48,000		**48,000**
October	12,000	6,000		18,000		**18,000**
November	6,000	12,000		18,000		**18,000**
Totals	**13,668,000**	**2,749,000**	**2,439,000**	**18,856,000**	**2,479,000**	**21,335,000**
Previous Years:						
1947	17,868,000	4,298,000	1,819,000	23,985,000	2,585,000	**26,570,000**
1946	15,117,000	2,023,000	896,000	18,036,000**	4,378,000	**22,413,000**
1945	11,606,000	2,340,000	1,163,000	15,109,000**	4,571,000	**19,680,000**
1944	8,457,460	3,604,517	1,218,985	13,280,962**	5,444,672	**18,725,634**
1943	6,381,348	5,155,435	1,331,575	12,907,123	12,337,126	**25,018,553**
1942	5,910,928	4,035,866	1,104,459	11,201,891	13,415,795	**24,467,048**
1941	8,625,079	3,139,021	1,014,192	12,959,499	10,033,720	**28,812,612**
1940	9,310,667	1,999,314	1,002,401	12,683,872	11,210,740	**25,632,122**
1939	9,904,289	3,018,504	445,500	13,465,162	9,319,026	**22,687,319**
1938	8,619,526	2,794,557	586,619	12,194,669	7,324,178	**19,343,390**
1937	9,026,372	2,333,370	377,796	11,765,314	7,015,057	**18,773,489**
1936	8,113,365	2,054,167	399,200	10,584,653	6,205,377	**16,772,209**
1935	7,636,704	2,246,196	349,300	10,206,054	6,927,581	**17,159,781**
1934	7,946,499	1,513,273	271,600	9,731,372	8,591,983	**18,323,355**

* The figures for District No. 3 were obtained from the Canadian Government by the International Fisheries Commission, and amended by data from other sources.

** Total Canadian does not include landings in Alaska of 179,000 in 1948, landings in the State of Washington of 270,000 pounds in 1947, or landings in Alaska of 473,000 pounds in 1946.

NOTE:—1948 figures of the International Fisheries Commission are preliminary and subject to further correction.



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Pacific Halibut Catch--Areas 2 and 3 by Months

Month	Area 2			Area 3			TOTAL		
	U. S.	Canada	Total	U. S.	Canada	Total	U. S.	Canada	Total
May	8,951,000	11,088,000	20,039,000	6,968,000	52,000	7,020,000	15,919,000	11,140,000	**27,059,000**
June	3,614,000	3,193,000	6,807,000	11,097,000	2,653,000	13,750,000	14,711,000	5,846,000	**20,557,000**
July	132,000	61,000	193,000	5,296,000	1,789,000	7,085,000	5,428,000	1,850,000	**7,278,000**
August	166,000	82,000	248,000	15,000	30,000	45,000	181,000	112,000	**293,000**
September	97,000	39,000	136,000	7,000	10,000	17,000	104;000	49,000	**153,000**
October	112,000	20,000	132,000	....	....	....	112,000	20,000	**132,000**
November	33,000	18,000	51,000	....	....	....	33,000	18,000	**51,000**
Totals	**13,105,000**	**14,501,000**	**27,606,000***	**23,383,000**	**4,534,000**	**27,917,000****	**36,488,000**	**19,035,000**	**55,523,000**

* This figure includes approximately 832,045 lbs. of halibut which were taken incidentally to cod fishing after the closure of Area 2, as allowed by the 1948 Regulations of the International Fisheries Commission; and similarly 66,901 pounds from Area 3.

** This table does not include the partially estimated amount of 241,000 pounds landed from areas 1A and 1B.

NOTE:—1948 figures of the International Fisheries Commission are preliminary and subject to further correction.

centage of waste, and in some degree due to their softer texture.

The weakness of chickens, on the other hand, was compensated in a measure by strength of large fish. On the northern exchanges, where fish are graded three ways, the whales during much of the season commanded price parity with mediums, while chickens could command only half as much.

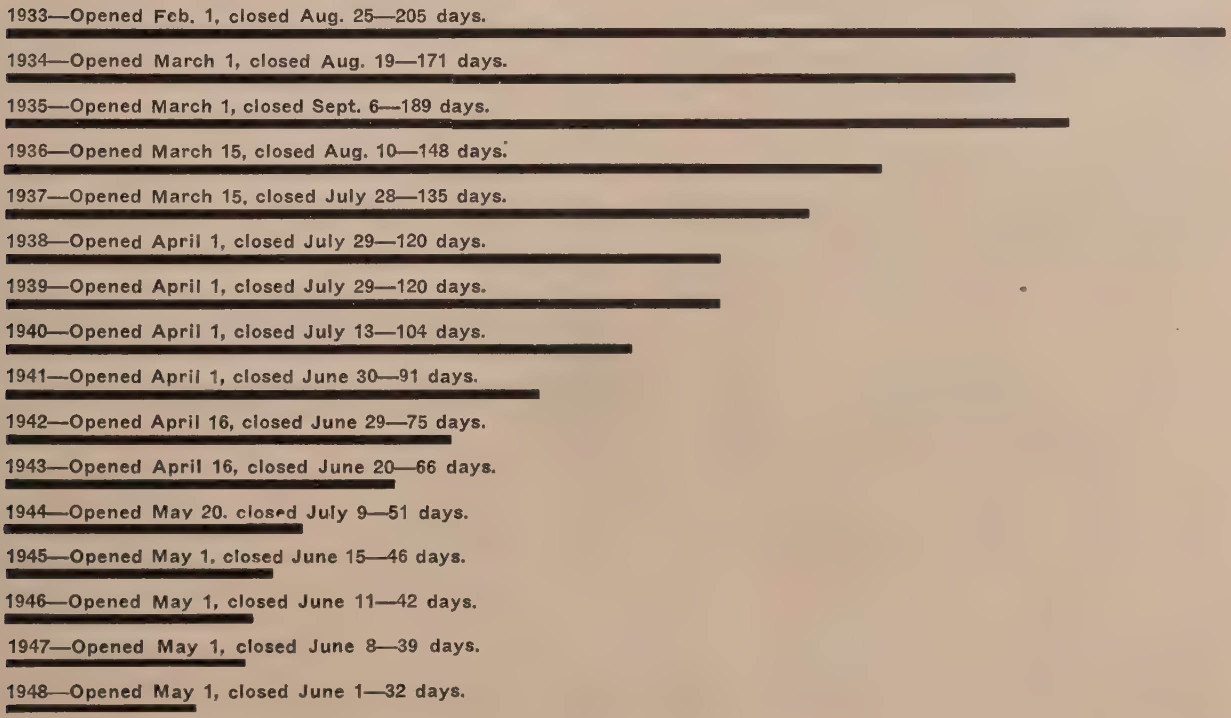
Condition of Halibut Fishery Continues Favorable

Generally satisfactory conditions were observed in 1948 in the condition of the North Pacific halibut

Percentage Divisions of Catch Between Fleets

Year	CANADIAN			AMERICAN		
	Area 2	Area 3	All Areas	Area 2	Area 3	All Areas
1948	52.6	16.2	34.3	47.4	83.8	65.7
1947	62.3	25.3	43.7	37.7	74.6	56.3
1946	50.7	13.0	30.7	49.3	87.0	69.3
1945	47.0	12.2	28.0	53.0	87.8	72.0
1944	42.7	8.2	25.0	57.3	91.8	75.0
1943	44.5	5.8	24.1	55.5	94.2	75.9
1942	39.0	7.7	22.2	61.0	92.3	77.8
1941	44.2	8.4	24.7	55.8	91.6	75.3
1940	43.5	5.9	23.8	56.5	94.1	76.2
1939	44.8	10.0	26.5	55.2	90.0	73.5
1938	41.3	10.4	24.7	58.7	89.6	75.3
1937	42.6	7.5	23.8	57.4	92.5	76.2
1936	38.8	7.0	21.7	61.2	93.0	78.3
1935	40.8	5.3	21.3	59.2	94.7	78.7
1934	40.2	3.0	20.5	59.8	97.0	79.5
1933	33.9	2.7	17.7	66.1	97.3	82.3
1932	27.1	2.0	14.4	72.9	98.0	85.6

DECLINING LENGTH OF AREA 2 HALIBUT SEASON



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1948 — Seattle Halibut Fleet Landings by Months — 1948

MONTHS	TRIPS	HALIBUT NO. 1		HALIBUT NO. 2		LINGCOD		ROCKFISH		SABLEFISH		**Total**	
	NUMBER	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE
January	19					113,820	$13,373	19,727	$2,010			**133,547**	**$15,383**
February	19					97,334	11,512	23,349	1,796			**120,683**	**13,308**
March	18					102,122	12,537	37,280	2,581	8,222	$1,061	**147,624**	**16,179**
April	3					18,431	2,553	16,823	1,209			**35,254**	**3,762**
May	103	2,041,144	$406,093	1,458,031	$210,863	29,967	1,696	9,759	542	2,951	373	**3,541,852**	**619,567**
June	76	1,453,106	358,299	1,063,764	215,441	16,474	1,030	4,939	271	54,334	9,281	**2,592,617**	**584,322**
July	88	1,368,515	333,761	1,567,526	316,457	99	6	8,348	498	86,764	15,793	**3,031,252**	**666,515**
August	20	23,482	7,311			643	39	12,177	625	274,924	48,928	**311,226**	**56,903**
September	31	30,631	9,279			3,994	230	15,699	787	296,677	51,120	**374,001**	**61,416**
October	50	52,751	15,845			7,272	367	56,829	2,854	473,530	74,505	**590,382**	**93,571**
November	23	20,788	6,236			15,391	1,670	16,102	805	163,860	25,201	**216,141**	**33,912**
Total	**450**	**4,990,417**	**$1,136,824**	**4,089,321**	**$742,761**	**405,547**	**$45,013**	**221,032**	**13,978**	**1,361,262**	**226,262**	**11,094,579**	**$2,164,838**
1947 Total	**302**	**3,705,948**	**$972,481**	**1,887,355**	**$423,403**	**301,745**	**$31,630**	**165,098**	**$12,149**	**1,378,694**	**$179,151**	**7,438,840**	**$1,619,199**
1946 Total	**458**	**6,823,696**	**$1,509,839**	**6,299,384**	**$1,286,742**	**261,803**	**$23,787**	**218,598**	**$14,136**	**1,358,433**	**$199,832**	**14,961,914**	**$3,034,336**
1945 Total	**459**	**6,547,387**	**$1,148,683**	**5,376,141**	**$2,008,265**	**893,283**	**$86,952**	**287,623**	**$24,030**	**572,376**	**$65,816**	**13,676,821**	**$2,185,062**

population, and this is reflected in the increased quota permitted in Area 2. The stock in this area continues to show a slow, but consistent, upward trend.

This cannot be said to be true of Area 3, however. There only a very scant increase in the catch-per-skate has been manifest and it is beginning to appear that the population in Area 3 does not respond as readily and fully to conservation as does that in Area 2. Admittedly, the stock in the "local" area had been brought to a more serious state of depletion before corrective measures were applied, but now it begins to appear also that conditions in Area 2 are more favorable for recovery than they are further north and west.

At the end of 1948 the cold storages of the United States had on hand slightly less frozen halibut than a year before, but the stocks were about 25% greater in the aggregate than the five-year average for that time of year.

Oregon and California Halibut Landings
1948

Month	Pounds
May	276,000
June	192,000
July	66,000
August	22,000
September	21,000
October	8,000
November	4,000
Totals	589,000

Note: California figures include some estimated poundage.

Note: 1948 figures of the International Fisheries Commission are preliminary and subject to further correction.

At the annual meeting of the International Fisheries Commission in January, 1949, it was indicated that the opening of fishing would be May 1, as in recent years.

There were proposals for a split season in an effort to extend the period of halibut fishing.

This suggestion may be given force, but it was not accompanied by any provision for retarding the *rate* of fishing.

Accordingly, it is evident that it would not slow deliveries, but would merely separate two intensive periods of fishing.

Suggestions of the fishermen's union for an earlier opening of the season did not meet with general support.

Seattle — Weighted Average Prices Paid to Fishermen — 1948

FISH	DECEMBER, 1947	JANUARY, 1948	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Ln.	Cents per Lb.
Carp, California, Rd		8.0	7.5	7.0	7.3	6.9				8.0	8.0	8.0
Cod, true, ex-vess, Dressed	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Cod, true, ex-vess, Rd	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Flounder, ex-vess, Rd	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Halibut, No. 1, ex-vess, Dr						19.9	24.7	24.4		30.4	30.0	30.0
Halibut, No. 2, ex-vess, Dr						14.5	20.3	20.2		30.0		
Halibut, Uncl., ex-vess, Dr						18.2	18.7		31.1			
Herring, local, Rd			3.9	5.9	6.0	6.0						
Lingcod, ex-vess, Dressed	10.4	10.1	10.7	10.7	8.7	7.8	7.9	8.0	8.0	7.9	8.0	8.5
Lingcod, ex-vess, Rd	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Perch, local, Rd	13.5	12.1	11.1	13.9	11.3	7.2	7.0	6.0	11.0	11.3	11.7	12.0
Pilchard, local, Rd						4.1	5.0	6.0	6.0			
Rockfish, ex-vess, Dressed	9.7	10.2	7.7	6.9	7.2	5.6	5.4	6.0	5.1			
Rockfish, ex-vess, Rd		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Sablefish, ex-vess, Dressed			12.0	12.8	11.0	11.6	15.8	17.4	17.0	16.8	15.5	14.8
Sablefish, ex-vess, Rd		3.6	4.5			5.0	5.0	5.0	5.0	7.6	5.0	5.0
SALMON:												
Chinook, lg., ex-v., Dr	32.5	28.6	38.4	51.5	41.2	34.8	36.3	38.2	40.0	42.3	42.3	44.4
Chinook, sm., ex-v., Dr			25.0	51.5	41.1	31.4	32.1	31.9	36.4	40.1	41.3	46.6
Chinook, wh., ex-v., Dr			20.0	51.4	41.2	26.7	30.0	31.3	33.0	35.9	35.6	
Chinook, ex-vess, Rd									13.0	29.0	29.6	27.7
Chum, ex-vess, Round										19 9	20.6	19.3
Pink, ex-vess, Round									12.0			
Silver, ex-vess, Drawn							27.9	31.0	34.0	34.9	35.8	35.6
Silver, ex-vess, Rd									16.0	24.8	25.9	25.4
Sockeye, Round							29.0		35.0	37.0	30.0	
Smelt, Eulachon, Rd		13.3	15.1	5 4	5 0	8 0						
Smelt, Silver, Rd	8.5	9.3	15.0	6.0		11.6	8.7	7.6	7.5	8.0		
Sole, English, ex-vess, Rd	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Sole, Petrale, ex-vess, Rd	7.0	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Sole, Other, ex-vess, Rd	5.0	4.1	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0
Tuna, Alba., ex-vess, Rd								30.0	32.1	31.4		
Tuna, Albacore, other, local										31 0		
Miscellaneous, ex-vess	10.4	19.1	13.4	12.2	17.1	11.0	4.0	5.0	4.0			

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Seattle Halibut Sales by Months and Grades with Average Prices Paid

	Western No. 1—Lbs.	Average Price	Western No. 2—Lbs.	Average Price	Local No 1—Lbs.	Average Price	Local No. 2—Lbs.	Average Price	Total Lbs.	General Average Price
1948										
May	1,020,621	19.60	620,005	16.90	1,020,523	20.18	838,026	12.65	3,499,175	17.66
June	1,054,668	25.60	645,894	23.98	398,438	22.14	417,870	14.48	2,516,870	22.79
July	1,362,315	24.38	1,567,124	20.18	6,200	25.46	402	22.88	2,936,041	22.14
August	....	....	....	....	23,482	31.13	....	....	23,482	31.13
September	....	....	....	....	30,631	30.29	....	....	30,631	30.29
October	....	....	....	....	52,751	30.03	....	....	52,751	30.03
November	....	....	....	....	20,788	29.99	....	....	20,788	29.99
TOTALS	**3,437,604**	**23.34**	**2,833,023**	**20.33**	**1,552,613**	**21.54**	**1,256,298**	**13.26**	**9,079,738**	**20.70**
1947										
May	70,500	20.06	22,500	16.11	64,616	21.36	91,670	16.48	249,286	18.73
June	....	....	....	....	78,741	24.71	76,300	20.37	155,041	22.57
July	856,000	26.71	415,000	23.54	3,000	30.66	....	....	1,274,000	25.69
August	2,484,723	26.26	1,277,752	23.52	9,067	27.26	4,133	22.69	3,775,676	25.06
September	....	....	....	....	71,850	28.50	....	....	71,850	28.50
October	....	....	....	....	48,200	28.81	....	....	48,200	28.81
November	....	....	....	....	19,250	31.95	....	....	19,250	31.95
TOTALS	**3,411,224**	**26.24**	**1,715,252**	**22.84**	**294,724**	**26.19**	**172,103**	**18.36**	**5,593,303**	**24.96**
1946										
May	760,785	17.49	520,374	16.00	948,603	17.50	755,535	16.00	2,985,297	16.86
June	1,471,628	17.50	1,285,372	16.00	627,406	17.49	571,797	15.99	3,956,203	16.79
July	1,677,955	27.10	1,726,606	24.49	3,188	25.84	574	21.08	3,408,323	25.78
August	1,222,467	28.61	1,416,326	25.05	8,932	24.68	2,477	22.85	2,650,202	26.69
September	....	....	....	....	35,499	34.10	8,671	32.26	44,170	33.74
October	....	....	....	....	67,233	35.00	11,652	35.00	78,885	35.00
TOTALS	**5,132,835**	**23.28**	**4,948,678**	**21.55**	**1,690,861**	**18.59**	**1,350,706**	**16.28**	**13,123,080**	**21.31**
1945										
May	1,000,955	17.60	527,658	16.02	867,807	17.70	731,031	16.13	3,127,451	17.01
June	954,642	17.50	697,771	16.01	604,155	17.48	541,412	16.04	2,797,980	16.84
July	1,474,360	17.51	1,335,125	15.85	2,468	17.83	653	16.23	2,812,606	16.72
August	737,993	17.50	664,934	16.00	5,489	17.56	323	16.09	1,408,739	16.79
September	589,289	17.49	600,878	16.01	2,959	17.13	2,557	15.99	1,195,683	16.75
October	268,696	17.50	257,481	16.00	25,841	17.49	11,029	16.00	563,047	16.78
November	....	....	....	....	12,733	17.49	5,289	15.99	18,022	17.05
TOTALS	**5,025,935**	**17.52**	**4,083,847**	**15.95**	**1,521,452**	**17.46**	**1,292,294**	**16.09**	**11,923,528**	**16.84**
1944										
May	....	....	....	....	14,788	17.50	12,509	16.22	26,847	16.82
June	915,058	17.49	433,488	15.99	1,282,148	17.49	1,177,613	15.99	3,808,307	16.86
July	1,470,157	17.54	1,063,302	16.02	567,313	17.78	521,771	16.23	3,622,543	16.94
August	357,916	17.49	288,204	16.00	19,151	17.82	7,708	16.16	672,979	16.86
September	552,408	17.44	406,659	15.87	15,532	17.92	6,213	16.15	980,812	16.58
October	487,755	17.49	391,903	15.99	16,697	17.80	5,062	15.78	901,417	16.84
November	703,252	17.49	678,366	16.00	8,464	17.66	2,136	16.11	1,392,218	16.76
TOTALS	**4,486,546**	**17.50**	**3,261,922**	**15.99**	**1,924,093**	**17.59**	**1,733,012**	**16.05**	**11,405,123**	**16.86**
1943										
April	427,713	39.30	139,727	19.30	264,531	22.20	326,288	20.80	1,158,259	21.70
May	1,439,713	22.80	706,465	20.90	792,465	22.70	1,097,792	21.00	4,035,928	22.10
June	1,728,657	24.40	1,254,458	22.50	930,888	24.70	963,712	22.40	4,877,715	23.50
†July	1,056,041	23.80	911,150	19.80	10,070	23.60	6,773	19.50	1,984,034	22.00
August	50,188	17.50	27,064	16.00	9,495	17.40	5,036	17.30	91,783	17.10
September	147,814	17.40	51,738	15.90	22,952	17.40	8,611	15.90	231,115	17.10
October	....	....	....	....	30,060	17.50	7,566	15.90	37,626	17.20
TOTALS	**4,850,126**	**23.40**	**3,090,602**	**21.10**	**2,060,461**	**23.45**	**2,415,778**	**21.51**	**12,416,460**	**22.47**
1942										
April	304,127	13.87	105,053	12.97	174,173	17.72	129,469	14.76	712,822	14.84
May	1,136,632	14.66	600,406	13.92	1,079,112	14.76	857,386	13.43	3,673,536	14.28
June	576,170	17.69	576,242	16.65	991,016	17.88	911,002	16.54	3,054,430	17.21
July	749,795	20.26	784,953	17.87	251,217	17.13	277,608	15.60	2,063,573	18.35
August	749,903	20.02	790,811	16.91	20,183	24.33	5,167	16.62	1,566,064	18.49
September	1,207,665	19.54	1,058,532	17.21	39,123	23.77	4,185	21.16	2,309,505	18.55
October	357,802	19.89	318,958	17.63	28,276	24.86	2,010	21.44	707,046	19.07
TOTALS	**5,082,094**	**18.10**	**4,234,955**	**16.66**	**2,583,100**	**16.71**	**2,186,827**	**15.12**	**14,086,976**	**16.95**
1941 TOTALS	**8,394,343**	**11.98**	**5,653,244**	**11.79**	**2,595,348**	**11.60**	**2,030,081**	**9.94**	**18,393,670**	**11.82**
1940 TOTALS	**7,343,438**	**10.67**	**5,468,809**	**10.25**	**2,901,430**	**10.33**	**2,823,870**	**9.44**	**18,565,838***	**10.30**
1939 TOTALS	**8,171,019**	**9.30**	**5,399,244**	**8.84**	**2,962,012**	**8.49**	**3,285,078**	**7.08**	**19,892,739**	**8.69**
1938 TOTALS	**9,087,516**	**8.90**	**5,536,117**	**8.60**	**2,532,098**	**8.43**	**3,614,035**	**6.54**	**20,769,766**	**8.35**
1937 TOTALS	**10,013,021**	**9.79**	**5,523,057**	**8.33**	**2,608,758**	**9.71**	**3,021,157**	**7.60**	**21,165,993**	**9.09**
1936 TOTALS	**10,431,015**	**9.17**	**6,974,279**	**8.50**	**2,762,428**	**8.76**	**2,404,854**	**7.76**	**22,572.576**	**8.76**
1935 TOTALS	**11,465,100**	**.0864**	**4,710,000**	**.0794**	**3,066,500**	**.0825**	**2,450,100**	**.0719**	**21,691,700**	**.0827**
1934 TOTALS	**10,265,600**	**.0776**	**3,784,400**	**.0666**	**2,912,050**	**.0867**	**3,243,750**	**.0656**	**20,205,800**	**.0749**
1933 TOTALS	**10,785,700**	**.0747**	**3,912,000**	**.0586**	**2,718,300**	**.0787**	**4,345,400**	**.0516**	**21,761,400**	**.0677**
1932 TOTALS	**9,189,700**	**.0559**	**3,615,000**	**.0333**	**3,433,200**	**.0651**	**5,553,250**	**.0381**	**21,791,150**	**.0484**

*Includes 11,736 lbs. landed in January and February. **Included with Western. †Ceiling prices became effective July 13, 1943.

Data from 1936 to 1941 are official figures, based upon statistics of the United States Fish & Wildlife Service, which are based on amounts of halibut actually weighed out, graded and paid for. Data for years previous to 1936 represent fares as hailed and sold on the Seattle Fish Exchange. Note that prices for 1936 and after are quoted in cents and for previous years in decimals of a dollar.

Figures given here are for sales over the Seattle Fish Exchange only and quantities do not coincide precisely with other totals for Puget Sound landings, which include minor quantities landed and sold elsewhere.

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Monthly Landings of Food Fish by the Otter Trawl Fleet at Seattle
1943-1948

STATISTICS, COMPILED BY U. S. FISH AND WILDLIFE SERVICE, ARE IN TERMS OF POUNDS.

Month	"Sole" and Flounders					Halibut	True Cod	Lingcod	Sablefish	Rockfish	Miscellaneous	TOTAL
	English Sole	Petrale Sole	"Turbot"	Flounders	TOTAL							
1943												**1943**
January....	65,052	290	996	38,240	**104,578**	...	12,144	6,959	...	22,610	4,358	**150,649**
February...	102,550	3,620	19,375	14,174	**139,719**	...	19,860	8,694	460	55,351	7,331	**231,415**
March......	189,129	60,720	65,489	10,460	**325,798**	...	88,154	47,302	280	283,499	2,010	**747,043**
April.......	334,020	108,255	50,449	10,560	**503,284**	21,502	34,295	57,529	25	549,707	1,910	**1,167,352**
May...	153,530	1,342,690	56,395	11,930	**1,564,545**	159,227	116,156	579,430	14,294	613,777	...	**3,047,429**
June.......	22,955	1,262,673	13,930	250	**1,299,808**	190,315	60,056	1,802,424	25,724	252,012	...	**3,630,339**
July........	22,470	876,843	209,395	210	**1,108,918**	...	49,186	943,344	119,286	250,385	...	**2,471,119**
August.....	8,065	605,618	364,550	225	**978,458**	...	32,914	288,286	78,236	104,620	...	**1,482,514**
September.	129,045	378,498	1,275,546	3,831	**1,786,920**	...	46,038	155,900	215,091	568,020	2,455	**2,774,424**
October....	98,671	333,057	973,934	6,080	**1,411,742**	...	31,074	149,389	252,009	338,515	4,536	**2,187,265**
November..	253,055	154,017	(a) 51,956	22,998	**482,026**	...	59,669	74,729	1,933	164,628	1,326	**784,311**
December..	195,141	1,941	10,969	26,551	**234,602**	...	38,270	27,388	1,269	75,998	3,813	**381,340**
TOTAL....	**1,573,683**	**5,128,222**	**3,092,984**	**145,509**	**9,940,398**	**371,044**	**587,816**	**4,141,374**	**708,607**	**3,279,122**	**26,839**	**19,055,200**
1944												**1944**
January....	67,053	1,298	2,390	25,859	**96,600**	...	25,485	26,323	40	36,564	224	**185,236**
February...	104,138	5,569	10,988	4,007	**124,702**	...	27,216	18,982	1,105	70,294	3,208	**245,507**
March......	151,635	58,773	50,364	6,545	**267,317**	...	32,689	37,452	7,054	228,308	13,414	**586,234**
April.......	170,887	377,237	1,810	52,142	**602,076**	...	24,212	169,887	12,308	271,788	85	**1,080,356**
May........	68,803	1,739,261	...	17,581	**1,825,645**	...	19,985	785,105	38,071	426,158	323	**3,095,287**
June.......	4,130	716,477	...	...	**720,607**	...	33,564	872,712	69,663	499,764	425	**2,196,735**
July........	4,625	275,982	...	...	**280,607**	...	39,860	509,725	380,253	373,873	...	**1,584,318**
August.....	50,880	448,510	...	195	**499,585**	...	37,768	553,823	267,624	528,105	140	**1,887,045**
September.	16,206	279,485	...	575	**296,266**	...	37,197	511,891	72,864	283,103	320	**1,201,641**
October....	16 260	350,525	...	70	**366,855**	...	32,533	239,587	97,071	1,276,650	230	**2,012,926**
November..	37,458	124,831	...	870	**163,159**	...	31,858	34,026	3,689	278,574	915	**512,221**
December..	101,835	17,565	...	846	**120,246**	...	28,602	10,647	...	83,478	3,801	**246,774**
TOTAL....	**793,910**	**4,395,513**	**65,552**	**108,690**	**5,363,665**	...	**370,969**	**3,770,160**	**949,742**	**4,356,659**	**23,085**	**14,834,280**
1945												**1945**
January....	74,170	2,780	...	7,273	**84,223**	...	23,347	7,156	100	128,317	...	**243,143**
February...	127,647	8,450	...	3,905	**140,002**	...	38,207	14,593	...	325,890	...	**518,692**
March..	76,030	14,517	...	135	**90,682**	...	53,162	28,683	1,292	393,698	...	**567,517**
April... ...	102,462	321,480	...	719	**424,661**	...	151,680	189,535	1,706	1,738,264	...	**2,505,846**
May.... ...	27,405	782,955	...	3,960	**814,320**	...	246,546	720,332	495	1,888,539	...	**3,670,232**
June.......	6,890	1,756,346	...	490	**1,763,726**	...	292,023	1,095,340	1,509	1,888,211	...	**5,040,809**
July........	2,550	761,580	17,045	1,950	**783,125**	...	240,090	567,467	30,676	2,620,026	...	**4,241,384**
August.....	11,500	204,120	25,646	4,110	**245,376**	...	43,000	235,207	42,338	967,555	...	**1,533,476**
September.	2,205	192,880	3,180	165	**198,430**	...	51,070	126,535	53,361	498,738	...	**928,134**
October....	80,465	504,418	2,670	18,660	**606,213**	...	213,885	217,416	88,949	1,657,053	...	**2,783,516**
November..	97,354	129,918	505	27,280	**255,057**	...	175,455	63,515	9,499	459,245	...	**962,771**
December..	196,456	22,260	110	318,950	**537,776**	...	168,997	53,279	1,442	375,374	...	**1,136,868**
TOTAL....	**805,134**	**4,701,704**	**49,156**	**387,597**	**5,943,591**	...	**1,697,462**	**3,319,058**	**231,367**	**12,940,910**	...	**24,132,388**
1946												**1946**
January....	138,013	2,171	...	21,749	**161,933**	...	87,179	26,121	148,497	195,911	3,073	**622,714**
February ..	632,465	22,595	...	6,122	**661,182**	...	111,303	77,023	107,789	478,543	3,819	**1,439,659**
March......	400,278	34,232	...	8,730	**443,240**	...	97,744	46,414	75	817,627	2,109	**1,407,209**
April.......	364,474	376,112	...	7,546	**748,132**	...	291,268	284,668	1,750	1,472,058	1,143	**2,799,019**
May........	30,850	748,561	...	9,675	**789,086**	...	156,747	333,379	23,469	373,813	477	**1,676,971**
June......	12,301	1,024,529	...	12,560	**1,049,390**	...	261,371	553,458	25,296	579,747	1,256	**2,470,518**
July........	...	546,820	...	...	**546,820**	...	491,911	416,200	21,079	995,920	829	**2,472,759**
August.....	6,460	334,683	...	110	**341,253**	...	52,332	119,711	97,844	756,601	811	**1,368,552**
September	228,712	287,784	...	1,635	**518,131**	...	46,623	64,190	83,978	256,071	4,157	**973,150**
October....	50,598	41,960	...	49,475	**142,033**	...	25,135	20,583	2,860	62,450	1,358	**254,419**
November .	37,885	87,751	...	2,482	**128,118**	...	62,800	27,225	2,105	54,150	1,059	**275,457**
December..	23,831	6,375	...	585	**30,791**	...	49,455	7,659	110	61,266	1,535	**150,816**
TOTAL....	**1,925,867**	**3,513,573**	...	**120,669**	**5,560,109**	...	**1,733,868**	**1,976,631**	**514,852**	**6,104,157**	**21,626**	**15,911,243**
1947												**1947**
January....	32,547	1,335	...	9,344	**43,226**	...	34,915	5,965	16,405	34,408	1,548	**136,467**
February..	309,755	29,230	...	10,952	**349,937**	...	48,342	26,222	2,523	266,633	37,194	**730,861**
March......	319,258	12,368	...	8,455	**340,081**	...	100,406	43,642	...	235,024	7,141	**726,294**
April.......	116,530	57,935	...	13,185	**187,650**	...	33,230	45,018	1,705	148,550	1,156	**417,309**
May........	72,180	512,795	...	15,759	**600,734**	...	63,303	137,825	1,009	263,310	1,764	**1,067,945**
June.......	66,300	466,218	...	16,740	**549,258**	...	221,467	157,511	4,197	147,761	...	**1,080,194**
July.......	31,133	746,670	...	36,830	**814,633**	...	137,191	357,334	29,816	357,475	...	**1,696,449**
August.....	55,620	195,015	...	10,695	**261,330**	...	10,975	114,413	19,240	181,453	...	**587,411**
September.	140,220	183,115	...	38,570	**361,905**	...	68,440	398,835	134,208	300,910	...	**1,264,298**
October....	63,960	166,285	...	51,664	**281,909**	...	79,365	144,895	96,598	183,597	...	**786,364**
November.	179,685	122,925	...	150,244	**452,854**	...	119,403	79,886	56,114	473,211	...	**1,181,468**
December..	41,937	142,573	...	20,377	**204,887**	...	58,815	117,382	23,824	604,974	1,373	**1,011,255**
TOTAL....	**1,429,125**	**2,636,464**	...	**382,815**	**4,448,404**	...	**975,852**	**1,628,928**	**385,639**	**3,197,306**	**50,176**	**10,686,315**
1948												**1948**
January....	232,120	31,845	...	51,151	**315,116**	...	70,940	158,975	9,715	738,444	11,154	**1,304,344**
February...	533,704	33,709	...	40,911	**608,324**	...	68,702	64,925	3,961	462,588	2,408	**1,210,908**
March......	283,705	171,295	...	4,380	**459,380**	...	322,327	75,953	223	458,107	17,561	**1,333,551**
April.......	515,053	291,483	...	103,538	**910,074**	...	452,215	166,042	34	747,323	82,836	**2,358,524**
May........	287,515	1,030,871	...	97,982	**1,416,368**	...	236,012	475,061	2,525	677,927	25,617	**2,833,510**
June.......	157,480	846,920	...	11,595	**1,015,995**	...	89,993	491,413	16,680	333,668	13,280	**1,961,029**
July........	126,322	194,720	...	4,910	**325,952**	...	52,407	150,160	15,884	413,950	3,145	**961,498**
August.....	188,671	270,268	...	29,150	**488,089**	...	105,420	320,325	27,397	313,064	44,067	**1,298,362**
September.	41,715	351,615	...	192,872	**586,202**	...	381,142	346,940	95,207	623,777	31,619	**2,064,887**
October....	204,030	298,790	...	120,115	**622,935**	...	250,602	195,151	35,587	971,396	2,509	**2,078,180**
November..	222,320	155,915	...	7,990	**386,225**	...	69,482	76,210	15,942	434,634	6,175	**988,668**
December..	86,681	46,955	...	27,405	**161,041**	...	86,612	16,146	496	241,726	538	**506,559**
TOTAL....	**2,879,316**	**3,724,386**	...	**691,999**	**7,295,701**		**2,185,854**	**2,537,301**	**223,651**	**6,416,604**	**240,909**	**18,900,020**

NOTE:—Bellingham landings included with Seattle in the last quarter of 1945. Landings during December, 1946, were negligible.

(a)—Includes 5,490 lbs. "Dover Sole," of which not enough was landed in Seattle in the period represented by this tabulation to warrant segregation in a separate column.

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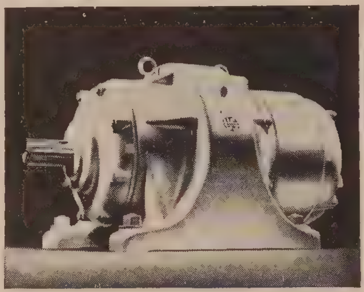

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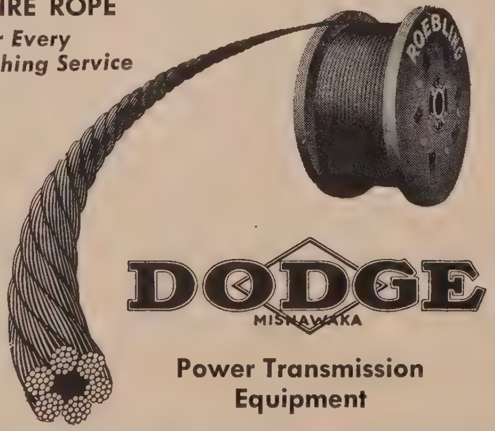

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OREGON TRAWL FISH LANDINGS

1948	January Pounds	February Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	September Pounds	October Pounds	November Pounds	December Pounds	Total 9 Months
SOLE—													
Petrale	61,266	13,007	58,119	208,485	400,229	629,496	455,720	546,884	80,230				**2,453,436**
Fringe	41,443	2,246	6,449	685	5,902	22,724		3,296	6,129				**88,874**
English	177,039	64,120	74,629	160,412	210,816	1,023,044	694,510	417,440	220,779				**3,042,789**
Dover				186	161,559	338,067	1,137,777	453,847	392,665				**2,484,101**
Other		114	96	2,128	25,432	36,115	82	27,994	39,267				**131,228**
"Turbot"	4,403	398	72,648	22,983	321,879	136,590	198,010	173,681	146,185				**1,076,777**
***Total Sole**	**284,151**	**79,885**	**211,941**	**394,879**	**1,125,817**	**2,186,036**	**2,486,099**	**1,623,142**	**885,255**				**9,277,205**
Flounders	229,488	44,541	11,448	46,758	308,838	75,628	184,534	185,103	158,532				**1,244,870**
Cod—Miscellaneous	112	699	223	1,507	3,965	14,214	4,011	2,256	692				**27,679**
Lingcod	52,584	16,420	44,370	105,427	165,727	118,701	58,974	89,683	48,748				**700,634**
Rockfish	412,023	216,917	496,258	885,757	568,583	186,716	212,018	221,780	136,134				**3,336,186**
Dogfish	49,948	38,280		66,494	16,000			16,000	118,000				**304,722**
Total Fish	**744,155**	**316,857**	**552,299**	**1,105,943**	**1,063,113**	**395,259**	**459,537**	**514,822**	**462,106**				**14,891,296**
LIVERS—													
Dogfish	23,121	14,171	35,439	265,874	45,791	9,836	9,083	7,948	14,896				**426,159**
Miscellaneous	8,729	4,569	11,137	5,296	2,871	4,123	24,538	46,616	20,202				**128,081**

1947	January Pounds	February Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	September Pounds	October Pounds	November Pounds	December Pounds	Total 1947
SOLE—													
Petrale	29,778	35,042	78,952	144,462	297,964	87,079	504,805	58,765	99,034	24,724	52,601	30,730	**1,443,936**
English	89,793	74,740	91,760	227,694	218,706	125,896	325,077	285,446	221,960	28,275	122,864	71,227	**1,883,438**
Dover				3,069	40,932	429,687	758,741	229,271	412,256	149,102	8,847		**2,031,905**
Other Sole	15,344	640	4,894	3,801	4,356	12,972	1,650	12,740	41,255	11,301	26,937	3,901	**139,791**
Total Sole	**134,915**	**110,422**	**175,606**	**379,026**	**561,958**	**655,634**	**1,590,273**	**586,222**	**774,505**	**213,402**	**211,249**	**105,858**	**5,499,070**
Flounders	8,126	77,033	22,183	86,781	110,283	29,365	5,336	66,855	105,417	30,760	75,933	49,275	**667,347**
"Turbot"			3,911	27,526	238,191	30,598	246,835	70,099	71,949	17,435	15,989	964	**723,497**
"Cod" Miscellaneous	26	830	9,190	858	7,780	728	3,194	3,817	2,242	162	1,156	211	**30,194**
Lingcod	26,245	39,040	62,577	74,236	66,700	31,438	88,366	38,034	85,970	5,673	30,397	20,550	**569,226**
Rockfish	454,418	1,076,820	306,497	842,619	641,913	435,838	237,234	57,732	98,332	41,058	286,642	158,491	**4,637,594**
Dogfish		2,994				33,010	7,335				49,005		**92,344**
Total Fish	**623,730**	**1,307,139**	**579,964**	**1,411,046**	**1,626,825**	**1,216,611**	**2,178,573**	**822,759**	**1,138,415**	**95,088**	**459,122**	**229,491**	**11,688,763**
LIVERS—													
Dogfish	55,336	13,653	37,819	27,900	5,541	8,826	7,885	2,870	19,017	16,504	35,277	108,198	**338,826**
Miscellaneous	12,564	15,116	6,362	2,436	2,067	2,451	5,385	10,963	12,647	15,925	13,860	27,545	**127,321**

1946	January Pounds	February Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	September Pounds	October Pounds	November Pounds	December Pounds	TOTAL 1946
SOLE—													
Petrale	16,589	4,183	30,087	463,758	711,897	398,629	344,343	306,428	470,564	162,272	50,041	25,301	**2,984,092**
English	84,534	56,506	110,384	323,696	616,321	687,944	540,901	498,047	693,378	135,250	152,022	51,626	**3,950,609**
Dover			855	3,638	321,594	821,318	714,411	637,142	675,677	21,620	1,733		**3,197,988**
Other Sole	1,625	1,644	2,706	33,819	32,715	11,023	4,533	6,227	14,176	5,237	8,924	9,507	**132,136**
Total Sole	**102,748**	**62,333**	**144,032**	**824,911**	**1,682,527**	**1,918,914**	**1,604,188**	**1,447,844**	**1,853,795**	**324,379**	**212,720**	**86,434**	**10,264,825**
Flounders	15,903	42,890	10,253	28,514	198,064	236,780	432,011	143,065	66,628	59,164	22,422	24,145	**1,279,839**
"Turbot"		787	1,050	1,895	52,708	45,627	45,603	79,296	65,591	5,151			**297,708**
"Cod" Miscellaneous	1,190	1,705	1,722	7,109	60,732	79,793	31,643	33,575	36,557	1,714	3,517	1,317	**260,574**
Lingcod	12,345	13,319	32,819	121,041	160,841	134,634	262,163	108,378	142,668	56,999	74,986	30,610	**1,150,803**
Rockfish	196,633	205,036	669,049	1,337,688	463,669	1,305,622	3,325,045	378,711	887,001	905,803	759,822	236,933	**10,671,012**
Dogfish					90					31,220			**31,310**
Total Fish	**328,819**	**326,070**	**858,925**	**2,321,158**	**2,618,631**	**3,721,370**	**5,700,653**	**2,190,869**	**3,052,240**	**1,384,430**	**1,073,467**	**379,439**	**23,956,071**
LIVERS—													
Dogfish	16,992	14,290	9,208	27,907	72,028	18,102	3,436	6,000	45,548	12,427	88,772	58,315	**373,025**
Miscellaneous	6,429	4,424	7,019	5,569	2,749	56,281	9,484	38,653	43,451	23,980	22,115	13,772	**233,926**

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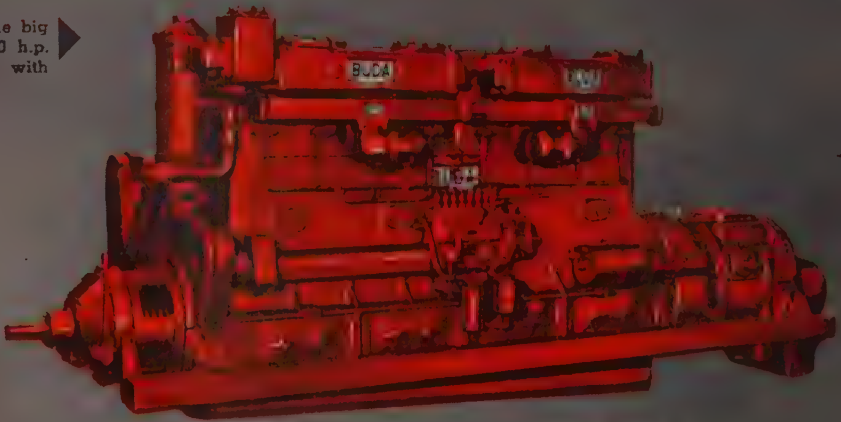
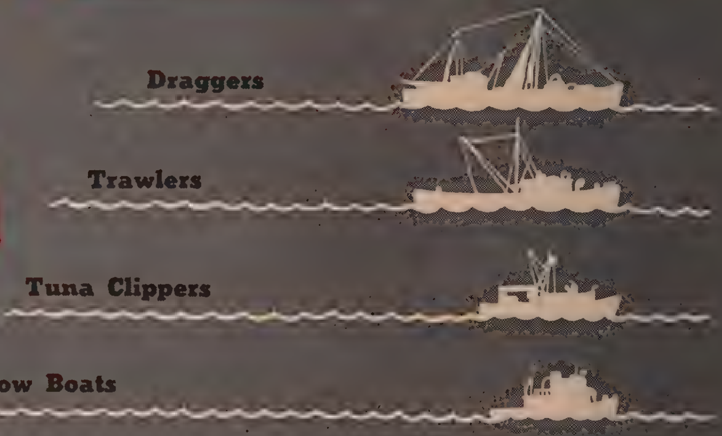
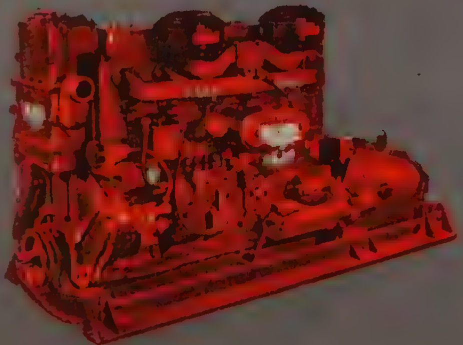


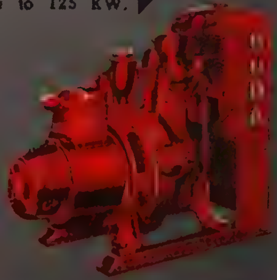
Popular 6-cyl. BUDA 1879 Diesel—the "pride and joy" of many a work boat owner—develops 171 usable h.p. at 900 RPM.



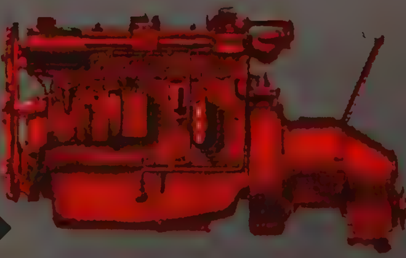
For fast, medium-size craft, the 6-cyl. 844 BUDA Diesel is just right—104 h.p. at 1200 RPM. Supercharged model also available.



BUDA auxiliary generator sets — available in complete range of sizes from 2½ to 125 KW.



New 6 cyl. BUDA 230 Diesel for big power in little space. Shown with reverse and reduction gear.



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NAME__________ JOB OR CONNECTION__________

ADDRESS__________ CITY__________ STATE__________

. . . MORE POWER in '49

MARINE DIESELS . . .

Use this handy BUDA CHART to pick the right engine for your boat

Dollar for dollar, you won't find another engine that can match the money-making service and satisfaction you get in the new Buda Marine Diesels for '49. You get more rugged power and stamina . . . quicker, easier starting . . . smoother, quieter performance. All this — plus famous Buda "slow pressure" combustion, which has come to mean extra savings in fuel, more horsepower hours per dollar of cost. From the husky new 8-cylinder "2505" to the powerful little "77 twin," there's a "sea-proved" Buda Diesel that's *just right* for your boat. See your nearby Buda Marine distributor today, or mail coupon at left for complete information.

15 BUDA DIESELS . . 200 SERVICE STATIONS . . 'ROUND THE WORLD!

MODEL	NO. CYL.	BORE & STROKE	CU. IN. DISPL.	USABLE HORSEPOWER		
				TUGS & TRAWLERS	COMMERCIAL	PLEASURE CRAFT
2-BDMR-77	2	3 7/16 x 4⅛	77		15 @ 2000 RPM	15 @ 2000 RPM
4-BDMR-153	4	3 7/16 x 4⅛	153		30 @ 2000 RPM	40 @ 2400 RPM
4-BDMR-182	4	3¾ x 4⅛	182		35 @ 2000 RPM	45 @ 2400 RPM
6-BDMR-230	6	3 7/16 x 4⅛	230		45 @ 2000 RPM	60 @ 2400 RPM
6-BDMR-273	6	3¾ x 4⅛	273		55 @ 2000 RPM	70 @ 2400 RPM
6-DTMR-317	6	3⅝ x 5⅛	317	45 @ 1400 RPM	56 @ 1800 RPM	75 @ 2100 RPM
6-DTMR-468	6	4¼ x 5½	468	60 @ 1200 RPM	75 @ 1600 RPM	100 @ 2000 RPM
6-DCMR-844	6	5¼ x 6½	844	104 @ 1200 RPM	120 @ 1400 RPM	150 @ 1600 RPM
6-DCSMR-844*	6	5¼ x 6½	844	128 @ 1200 RPM	145 @ 1400 RPM	185 @ 1600 RPM
8-DCMR-1125	8	5¼ x 6½	1125	140 @ 1200 RPM	160 @ 1400 RPM	200 @ 1600 RPM
8-DCSMR-1125*	8	5¼ x 6½	1125	170 @ 1200 RPM	200 @ 1400 RPM	250 @ 1600 RPM
6-DCMR-1879	6	6¾ x 8¾	1879	171 @ 900 RPM	186 @ 1000 RPM	222 @ 1100 RPM
6-DCSMR-1879*	6	6¾ x 8¾	1879	213 @ 900 RPM	230 @ 1000 RPM	278 @ 1100 RPM
8-DCMR-2505	8	6¾ x 8¾	2505	230 @ 900 RPM	250 @ 1000 RPM	300 @ 1100 RPM
8-DCSMR-2505*	8	6¾ x 8¾	2505	285 @ 900 RPM	308 @ 1000 RPM	367 @ 1100 RPM

* Supercharged

BM-6

BUDA

. . . a Power-full name in ENGINES

1948 – COASTWISE RECEIPTS AT SEATTLE FROM ALASKA – 1948

Fresh and Frozen—Pounds	December 1947	January 1948	February 1948	March 1948	April 1948	May 1948	June 1948	July 1948	August 1948	September 1948	October 1948	November 1948	Total 1948	Total 1947
Cod, true Frozen					400								400	862
Dolly Varden Trout Frozen						2,628	2,683	4,280	18,891		1,600		30,082	13,417
Halibut						4,233	152,125	48,000	6,449				210,807	698,816
Halibut Frozen		420,530	219,615	15,200		191,900	2,105,283	1,622,567	1,346,112	754,548		1,608,103	8,283,858	11,129,130
Herring Frozen				100,000	80,000								180,000	53,200
Lingcod Frozen	9,799	345	61				4,676	1,216	383	300		19,069	26,050	160,336
Rockfish Frozen	4,819						1,647			490		473	2,610	441,884
Shrimp		9,770											9,770	
Shrimp Frozen			4,170		6,750			1,375	3,550	1,485			17,330	
Sablefish														1,800
Sablefish Frozen	219,784	12,940	35,177		10,210	85,268	235,034	443,332	267,733	183,436	38,860		1,311,990	2,043,783
Shrimp Meat														33,550
Shrimp Meat Frozen	74,027	91,698	54,709	20,100		43,440	46,420	39,980	24,640	4,070	8,598		333,655	367,916
Salmon:														
Chinook	10,066	1,233	6,057	44,033	44,901	84,706	2,873						183,803	114,457
Chinook Frozen	60,954	73,962	49,072	33,826	21,828	53,295	267,614	228,556	65,558	88,941	3,630	124,179	1,010,461	1,711,762
Chum Frozen	23,085	122	800							10,311	73,438	29,792	114,463	1,118,994
Pink Frozen	14,837		570							10,700	74,095	11,807	97,172	176,402
Silver							610						610	
Silver Frozen	142,501	52,058	117,544	119,475		42,631	179,405	4,800	115,225	191,910	142,617	177,095	1,142,760	3,411,074
Sockeye Frozen			417									576	993	9,771
Unclassified Frozen	5,137		3,965						114,877	4,851		20,772	144,465	142,089
Crabs Frozen						15,825							15,825	1,120
Crab Meat Frozen	8,690	666	3,150		1,225		7,620	350	11,210	12,800	2,920		39,941	151,700
Tuna, Albacore Frozen												11,700	11,700	
Fillets, other Frozen														1,616
Unclassified Frozen														27,559
Miscellaneous Frozen	190	220	202										422	
Total Fresh	10,066	11,003	6,057	44,033	44,901	88,939	155,608	48,000	6,449				404,990	848,623
Total Frozen	563,823	652,541	489,452	288,601	120,413	434,987	2,850,382	2,346,456	1,968,179	1,263,842	345,758	2,003,566	12,764,177	20,962,615
GRAND TOTAL	573,889	663,544	495,509	332,634	165,314	523,926	3,005,990	2,394,456	1,974,628	1,263,842	345,758	2,003,566	13,169,167	21,811,238
Cured Fish:														
Herring, salted Bbls.			6										6	1,080
Herring, salted ½-Bbls.	3								510				510	9,305
Salmon, mild-cured Tcs.	24	2	1	5	25	277	1,281	1,359	977	459	83		4,469	2,738
Salmon, salted ½-Tcs.						5			3				8	39
Salmon, salted Bbls.	21	42	17			3			80	4	36		182	1,840
Unclassified Bbls.								72					72	101
Sablefish, salted Bbls.									275	36	83		394	
Miscellaneous:														
Livers Frozen														
Grayfish—Soupfin Lbs.														44,161
Halibut Viscera Lbs.	107,309		71,484			182,487	340,734	96,772	49,108	19,619			760,204	984,348
Sablefish Viscera Lbs.	14,349		9,519		1,117	1,559	12,832	24,684	52,359	26,566			128,636	244,196
Unclassified Lbs.	5,597		5,929		761	6,227	7,912	1,828	1,273	5,888		417	30,235	131,241
Grayfish (Dog) Lbs.	179,013		7,047			9,562	2,641	1,263	457	829			21,799	179,013

1948 – Miscellaneous Fish Products Received by Seattle Wholesale Dealers – 1948

Product and Unit	January	February	March	April	May	June	July	August	September	October	November	11 Mo. Totals
Codfish, Salt, Import, Lbs	50,240		10,236				30,275			32,845		**123,596**
Codfish, Dried, Import, Lbs			3,114		5,500							**8,614**
Finnan Haddie, Import, Lbs		61,520	57,540	68,260	4,050		750	102,150	5,500	2,250	4,500	**306,520**
Herring, Barrels		6										**6**
Herring, Half-Barrels								510				**510**
Herring, Import, Lbs		107,350	9,000			150						**116,500**
Herring, Kippered, Lbs	36,689	3,240	4,461	3,000	1,250	2,000		32,000		44,500	98,700	**225,840**
Herring, Import, Barrels			158	13	3			200	22,500		29	**22.903**
Mackerel, Lbs		15,000								2,000		**17,000**
Salmon, Mild Cure, Tcs	2	1	5	25	277	1,281	1,359	977	459	83		**4,469**
Salmon, Mild Cure, Import, Tcs		69	51	22		154	84		3	70	79	**532**
Salmon, Salted, ½-Tcs					5			3				**8**
Salmon, Salted, Barrels	42	17			3			80	4	36		**182**
Salmon, Kippered, Import, Lbs	620	1,000	455	1,441				287	181	311	650	**4,945**
Sablefish, Alaska, Barrels									36	83		**119**
Unclassified, Lbs		652				150*	72*	275*				
Miscellaneous												
Herring Meal, Tons			930	1,068	370	402	2,726	3,301	974	550	1,278	**11,599**
Unclassified Meal, Tons						61	5	205	519	609		**1,399**
Herring Oil, Gallons			7,500			15,000	280,675	413,054	279,322	49,168		**1,044,719**
Unclassified Oil, Gallons	6,585		1,210		1,155	865	820	76,827	59,876		75,408	**222,746**
Fish Livers:												
Grayfish, Lbs	70,898	81,868	79,534	263,542	275,581	110,699	63,007	58,593	79,917	117,853	124,792	**1,326,284**
Halibut—Viscera, Lbs		71,484			182,487	340,734	96,772	49,108	19,619	1,639		**761,843**
Sablefish—Viscera, Lbs		9,519		1,117	1,559	12,832	24,684	52,359	26,566	70,748	3,294	**202.678**
Lingcod, Lbs	9,258	9,237	16,646	5,355	8,373	9,180	5,783	11,767	12,571	11,400	25,658	**125.228**
Soupfin Shark, Lbs	5,293	14,272	8,251	17	302		10,084	7,243	6,925	5,282	9,043	**66,712**
Miscellaneous, Lbs	7,143	22,785	35,000	16,794	97,716	80,729	78,832	50,719	92,059	50,565	117,175	**649,517**

* This figure given in barrels.

FISH

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Cured---
Frozen---
Shellfish---

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CONSOLIDATED FISHERIES

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425 Washington St. San Francisco 26

Variety		January	February	March	April	May	June	July	August	September	October	November	1948 Total
		Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Swordfish	Japan Import, frozen		211,747										**211,747**
Tuna, Albacore	Round							12,803	58,314	101,183			**172,300**
	Other							166,722	21,400	6,331			**194,453**
	B. C. Import								3,730	31,000			**34,730**
	B.C. Import, frozen										108,225	36,000	**144,225**
	Jap., Import, frozen							549,654	9,996	153,540	85,480		**798,670**
	Alaska, frozen											11,700	**11,700**
Fillets, Sole	Local	3,955	10,770	6,534	9,456	10,910	30,331	6,018	3,600	340	7,764	17,555	**107,233**
	Frozen						9,525	6,620					**16,145**
	B. C. Import			2,700	1,293	5,034			14,000	1,620	315		**24,962**
	B.C. Import, frozen	25,055	30,850	49,960	109,750	98,086	40,004	58,860	10,000	94,000	25,400	41,901	**583,866**
Other		4,998	5,669	9,244	20,116	9,735	7,163	4,706	2,020	1,980	7,251	4,349	**77,231**
	Frozen		4,820	500			3,525	7,710					**16,555**
	B. C. Import		1,140	2,400	1,400				8,000				**12,940**
	B.C. Import, frozen	1,380	9,935	3,820	27,591	5,000	74,101	46,000	10,000	17,250	20,530		**215,607**
Miscellaneous		3,124	1,758	966	11,331	1,637	120	150	812	1,710	1,609	923	**24,140**
	Alaska, frozen	220	202										**422**
	B. C. Import									6,580			**6,580**
	B. C. Import, frozen	36,461	69,530	35,126					15,595				**156,712**
	Other, local	7,882	4,937	3,205	3,935	5,700	5,155	6,059	9,410		1,793	1,400	**49,476**
	Other, local, frozen	9,650	2,955				70,908						**83,513**
Total Fish, ex vessel		**1,438,723**	**1,334,118**	**1,482,606**	**2,519,318**	**6,468,626**	**5,098,324**	**4,490,894**	**1,827,510**	**2,917,441**	**3,006,639**	**1,558,648**	**32,142,847**
Total Fish, fresh		**96,981**	**109,258**	**507,512**	**476,059**	**1,806,319**	**2,155,875**	**3,177,585**	**2,995,465**	**1,545,276**	**1,990,966**	**2,019,412**	**16,880,708**
Total Fish, frozen		**1,835,823**	**1,014,495**	**1,714,526**	**1,301,685**	**601,084**	**3,266,012**	**3,259,545**	**2,649,077**	**1,807,773**	**3,560,203**	**3,293,281**	**24,303,504**
GRAND TOTAL		**3,371,527**	**2,457,871**	**3,704,644**	**4,297,062**	**8,876,029**	**10,520,211**	**10,928,024**	**7,472,052**	**6,270,490**	**8,557,808**	**6,871,341**	**73,327,059**

* Includes fresh and frozen salmon from all sources.

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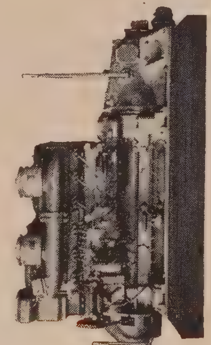
"BEST BUY IN DEPENDABILITY"

Owners and users of Lathrop gasoline and diesel engines are our best salesmen. Their satisfaction, through years and years of rugged, reliable service, tells the straightforward story that Lathrops are the "best buy in dependability".

Through 53 years of exclusive marine engine production we have expanded our line and today offer twenty-one models — gasoline and diesel — to meet the varying needs of yachtsmen, fishermen and work boat operators the world over.



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William A. Kammerer, Baltimore, Maryland
Curtis Marine Co., Norfolk, Virginia
Marine Motors Sales Corporation, Jacksonville, Florida
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THE Lathrop ENGINE CO.
MYSTIC, CONNECTICUT
SINCE 1897 MANUFACTURERS OF RELIABLE MARINE ENGINES

1948 – RECEIPTS BY SEATTLE WHOLESALE DEALERS – 1948

Variety		January	February	March	April	May	June	July	August	September	October	November	1948 Total
		Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Carp, California		450	1,250	200	2,913	1,062				300	2,789	300	**9,264**
Cod, true	Dressed	31,430	30,022	65,807	101,660	87,312	48,893	26,225	50,800	180,237	99,358	37,472	**759,216**
	Round	39,510	38,680	256,520	350,555	148,700	41,100	26,182	54,620	200,905	151,244	32,010	**1,340,026**
	Alaska frozen				400								**400**
	Other	1,203	2,121	6,985	34		2,751	2,686	2,680		690	8,220	**27,370**
Dolly Varden Trout	Alaska, frozen					2,628	2,683	4,280	18,891		1,600		**30,082**
Flounder	Round	51,151	40,911	4,380	103,538	97,982	11,595	4,910	29,150	192,872	120,115	7,990	**664,594**
	Other	8,850	2,235		1,134		1,570	200				442	**14,431**
	B. C. Import			5,455		1,500	7,420						**14,375**
Halibut	No. 1, Dressed					2,041,144	1,453,106	1,368,515		25,314	52,751	20,788	**4,961,618**
	No. 2, Dressed					1,458,031	1,063,764	1,567,526		5,317			**4,094,638**
	B. C. Import					609,105	186,682		5,342	9,677	8,561		**819,367**
	B. C. Import, frozen	396,540	106,692	113,622	184,535	52,120	2,484	27,500	242,959	90,772	37,776	6,000	**1,261,000**
	Alaska					4,233	152,125	48,000	6,449				**210,807**
	Alaska, frozen	420,530	219,615	15,200		191,900	2,105,283	1,622,567	1,346,112	754,548	138,520	1,608,103	**8,422,378**
	Other					171,982	21,503		5,899		246		**199,630**
	Unclassified					5,161	5,119		23,482				**33,762**
Total Halibut		**817,070**	**326,307**	**128.822**	**184,535**	**4,533,676**	**4,990,066**	**4,634,108**	**1,630,243**	**885,628**	**237,854**	**1,634,891**	**20,003,200**
Herring	Round		14,420	21,610	8,075	740							**44,845**
	Alaska, frozen			100,000	80,000								**180,000**
	B. C. Import, frozen	200,000			80,700		152,000	110,000	160,000	180,903	200,000	220,000	**1,303,603**
Lingcod	Dressed	203,845	143,696	168,545	156,059	291,848	295,493	84,450	249,863	223,276	143,896	78,426	**2,039,397**
	Round	68,950	18,563	9,530	28,414	213,180	212,394	65,809	71,105	127,658	58,527	13,175	**887,305**
	Other	5,970	14,535	21,285	16,130	45,053	53,152	58,013	15,889	8,379	11,973	17,438	**267,817**
	B. C. Import			51,279	59,009	10,912	12,684	5,038	8,034				**146,956**
	B.C.Import, frozen	114,422			11,906								**126,328**
	Alaska, frozen	345	61				4,676	1,216	383	300		19,069	**26,050**
Perch	Rd	4,013	2,535	17,047	40,101	32,030	40	150	2,095	7,350	3,690	5,581	**114,632**
	B. C. Import				1,600								**1,600**
Pilchard	Round					67,025	15,580	1,215	18,723				**102,543**
Rockfish	Dressed	19,727	24,343	38,123	16,823	9,829	5,439	8,348	12,177				**134,809**
	Round	738,444	461,594	457,264	747,323	677,857	333,168	413,950	313,064	639,476	1,028,225	450,736	**6,261,101**
	Other	1,762	1,425	10,143	1,867	9,524	13,473	37,560	12,594	7,397	5,781	3,731	**105,257**
	Alaska, frozen						1,647			490		473	**2,610**
	B. C. Import			4,000	170								**4,170**
Sablefish	Dressed		270	8,445	34	4,886	66,281	96,269	291,164	306,557	494,165	170,582	**1,438,653**
	Round	9,715	3,691			590	4,733	6,379	11,157	85,327	14,952	9,220	**145,764**
	Other	613		55		305	10,719	7,025	64,642		1,025	42,720	**127,104**
	B. C. Import						95		4,104				**4,199**
	B.C. Import, frozen				7,964								**7,964**
	Alaska, frozen	12,940	35,177		10,210	85,268	235,034	443,332	267,733	183,436	38,860	58,395	**1,370,385**
SALMON: *													
Chinook		133,564	111,427	113,502	450,541	917,872	1,853,091	2,553,353	2,007,979	635,514	370,865	169,196	**9,316,904**
Chum		194,851	80,574	1,134,430	671,838	51,542	80,160	148,000		95,553	3,808,034	2,905,728	**9,170,710**
Pink			570						42	28,380	74,095	11,807	**114,894**
Silver		258,052	136,085	225,992	65,884	42,631	640,504	885,453	1,107,984	1,382,111	879,834	420,572	**6,045,102**
Sockeye			417				1,043	973	182,609	5,366	6,816	576	**197,800**
Unclassified		37,068	9,529	1,050	14,000	4,250	33,300		118,517	30,548		20,772	**269,034**
Total Salmon		**623,535**	**338,602**	**1,474,974**	**1,202,263**	**1,016,295**	**2,608,098**	**3,587,779**	**3,417,131**	**2,177.482**	**5,139,644**	**3,528,651**	**25,114,454**
Shad	Local (California)				3,820	6,442				279	835	330	**11,706**
Smelt	Eulachon, Round	10,155	7,274	253,150	12,805	6,955							**290,339**
	B. C. Import				4,000								**4,000**
	B.C.Import, frozen		16,070	1,000									**17,070**
	Silver, Round	17,211	185	2,400		35,887	93,885	102,256	83,299	23,475	36,060	24.856	**419,514**
SOLE	English, Round	232,120	533,704	283,705	515,053	287,515	157,480	126,322	188,671	41,715	204,030	222,320	**2,792,635**
	English, Other	24,478	6,528		107	4,375	9,485	4,495	6,480		3,688	4,710	**64,346**
	Petrale, Round	31,845	33,709	171,295	291,483	1,030,871	846,920	194,720	270,268	351,615	298,790	155,915	**3,677,431**
	Petrale, Other			11,575		5,700	27,665	6,810	6,960		750	4,608	**64,068**
	Other, Round	8,030	650	16,595	71,505	23,980	13,160	2,995	43,255	29,909	900	5,252	**216,231**
	Uncl., B.C. Import	1,018	5,000										**6,018**

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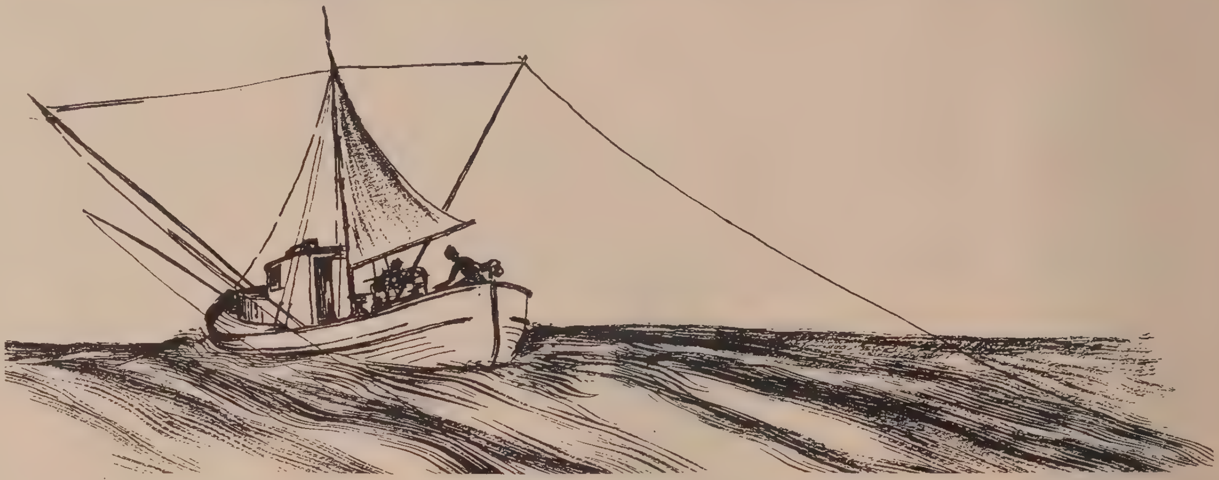

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1948 – SEATTLE WHOLESALE IMPORTS FROM BRITISH COLUMBIA – 1948

Fresh and Frozen	December 1947	January 1948	February 1948	March 1948	April 1948	May 1948	June 1948	July 1948	August 1948	September 1948	October 1948	November 1948	Total 1948	Total 1947
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**	**Pounds**
Flounder														**199**
Fillets				5,455		1,500	7,420						**14,375**	
Halibut						609,105	186,682		5,342	9,677	8,561		**819,367**	**2,763.533**
Frozen	73,505	396,540	106,692	113,622	184,535	52,120	2,484	27,500	242,959	90,772	37,776	6,000	**1,261,000**	**543,998**
Herring					80,700								**80,700**	
Frozen	10,000	200,000					152,000	110,000	160.000	180,903	200,000	220,000	**1.222,903**	**26,000**
Lingcod				51,279	59,009	10,912	12,684	5,038	8,034				**146,956**	**133,533**
Frozen		114,422			11,906								**126,328**	**195,549**
Perch					1,600								**1,600**	**3,649**
Rockfish				4,000	170								**4,170**	**1,296**
Sablefish							95		4,104				**4,199**	**175**
Frozen					7,964								**7,964**	**31,274**
Salmon, Chinook	2,625			11,316	119,455	331,459	567,662	1,069,636	1,228,571	222,688	64,316		**3,615,103**	**3,793,245**
Chinook, Frozen		57,537	30,594		89,025	2,338	6,225	500	173,727	81,318	173,206		**614,470**	**820,721**
Chum														**3,293,437**
Chum, Frozen	86,541	191,539	79,774	1,134,430	670,285	51,542	80,160	148,000		73,354	2,396,618	927,419	**5,753,121**	**1,211,445**
Pink										17,680			**17,680**	**464,376**
Pink, Frozen	15,953												**15,953**	**78,453**
Silver							95,765	110,630	104,116	5,540			**316,051**	**411,830**
Silver, Frozen	5,000	205,994	18,541	106,517	65,019		30,738		94,381	35,000	40,208		**596,398**	**5,000**
Unclassified							33,300			25,697			**58,997**	**40,511**
Unclassified, Frozen	2,100	37,068	5,564	1,050	14,000	4,250			3,640				**65,572**	**2,100**
Smelt, Eulachon					4,000								**4,000**	
Eulachon, Frozen			16,070	1,000									**17,070**	**183,753**
Smelt, Silver														**3,250**
Unclassified		1,018	5,000										**6,018**	**9,852**
Tuna, Albacore									3,730	31,000			**34,730**	**64,608**
Albacore, Frozen											108,225	36,000	**144,225**	**84,321**
Fillets, Sole	240			2,700	1,293	5,034			14,000	1,620	315		**24,962**	**5,370**
Fillets, Sole, Frozen	26,040	25,055	30,850	49,960	109,750	98,086	40,004	58,860	10,000	94,000	25,400		**541,965**	**413,015**
Other Fillets	1,965		1,140	2,400	1,400				8,000				**12,940**	**72,111**
Other Fillets, Frozen	3,165	1,380	9,935	3,820	27,591	5,000	74,101	46,000	10,000	17,250	20,530	41,901	**257,508**	**118,281**
Miscellaneous										6,580			**6,580**	
Miscellaneous, Frozen		36,461	69,530	35,126					15,595				**156,712**	
Clams, Clammeat	32,207	3,600		22,625	79,585	117,256	56,300	58,848	69,446	54,263	19,519①	10,907	**492,349**	**527,880**
Crab, Crabmeat	13,525	8,620	2,068	704						2,225	5,200		**18,817**	**79,330**
Total Fresh	**50,562**	**13,238**	**8,208**	**100,479**	**347,212**	**1,075,266**	**959,908**	**1,244,152**	**1,445,343**	**376,970**	**97,911**	**10,907**	**5,679,594**	**11,668,185**
Total Frozen	**222,304**	**1,265,996**	**367,550**	**1,445,525**	**1,180,075**	**213,336**	**385,712**	**390,960**	**710,302**	**572,597**	**3,001,963**	**1,231,320**	**10,765,336**	**3,713,910**
GRAND TOTAL	**272,866**	**1,279,234**	**375,758**	**1,546,004**	**1,527,287**	**1,288,602**	**1,345,620**	**1,635,112**	**2,155,645**	**949,567**	**3,099,874**	**1,242,227**	**16,444,930**	**15,382,095**
Cured Fish:														
Codfish, dried … Pounds	50,240							30,275					**30,275**	**50,240**
Codfish, salted … Pounds				10,236		4,050					32,845		**47,131**	**257,189**
Finnan Haddie … Pounds				57,540				750	102,150	5,500	2,250		**168,190**	**86,057**
Herring, Salted … Barrels	8			158		3			200	22,500		29	**22,890**	**399**
Kippered … Pounds	3,000	36,689	1,000	4,461	3,000	1,250	2,000		32,000		44,500	98,700	**223,600**	**12,200**
Mackerel, salted … Pounds											2,000		**2,000**	**29,500**
Salmon, mild cured … Tierces				51	22		154	84				79	**390**	**412**
Kippered … Pounds				455	1,441				287	181	311	650	**3,325**	**646**
Herring Meal … Tons				930	1,068	370	336	180		21	150	1,278	**4,333**	

①This figure does not include 2,495 gallons clammeat, imported the same month.

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A

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1948 — SHARK LIVER AUCTION, SAN FRANCISCO — 1948

Vitamin A Potency Classification	Month	Number of Cans	Average Oil Content (Per cent)	Vitamin A per Gram of Oil (Units)	Vitamin A per Lb. of Liver (Million Units)	Price per Lb. of Liver (Dollars)	Price per Million Units (Cents)
1—50,000	May	19-F	59.47	25,930	7.00	1.90	27.18
	June	19-M	57.61	22,160	5.79	1.61	27.73
	July	8-M, 11-F	58.24	26,891	7.10	1.82	25.58
	August	19-MX	58.50	35,600	9.45	2.29	24.23
	September	22-M	59.18	25,428	6.83	1.64	23.96
	October	13-M	65.00	24,200	7.14	1.57	21.99
50,001—100,000	September	17-M	61.00	97,000	26.84	8.86	33.01
100,001—150,000	May	57-M	54.82	142,683	35.48	11.26	31.73
	June	94-M	54.70	139,633	34.64	11.28	32.57
	July	42-M	55.23	141,350	35.41	11.78	33.27
	August	4-M	59.00	146,600	39.23	12.75	32.50
	September	94-M	58.74	115,604	30.80	10.18	33.05
	October	46-M	60.74	116,420	32.08	10.68	33.29
150,001—200,000	May	179-M	53.47	165,189	40.07	12.80	31.95
	June	90-M	53.89	165,580	40.48	13.15	32.49
	July	50-M	54.78	173,087	43.01	14.27	33.18
	August	52-M	55.66	159,089	40.17	13.08	32.56

"M"—Denotes male soupfin livers; "F"—denotes female soupfin livers; "MX"—denotes mixed livers.

VITAMIN LIVER LANDINGS AT SEATTLE 1946-1948

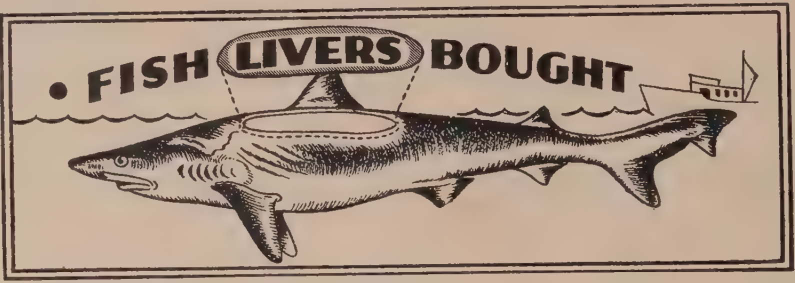
Month	1948				1947				1946			
	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscel. Livers	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscel. Livers	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscel. Livers
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
January	70,898	9,258	5,293	7,143	95,705	5,682	5,076	35,603	85,307	4,615	32,051	4,708
February	74,821	9,237	14,272	16,856	83,644	5,200	17,356	41,363	78,406	9,659	21,653	21,061
March	79,534	16,646	8,251	35,000	84,514	6,145	2,389	59,182	65,294	6,148	10,701	9,175
April	263,542	5,355	17	16,033	393,002	3,225		65,461	367,646	8,992	80	11,380
May	266,019	8,373	302	91,489	199,137	5,969	2	14,119	651,777	10,827		56,215
June	108,058	9,180		72,817	214,718	7,222	24	27,886	425,464	17,898	561	76,451
July	61,744	5,783	10,084	77,004	178,807	10,350	8,776	41,647	227,741	15,412	8,825	72,815
August	58,136	11,767	7,243	49,446	85,339	2,603	9,717	87,108	167,951	7,748	8,649	92,033
September	79,088	12,571	6,925	86,171	105,742	7,940	8,199	68,945	98,138	5,180	5,712	59,622
October	117,853	11,400	5,282	50,565	67,939	6,181	2,083	47,939	130,953	7,995	3,823	102,349
November	124,792	25,658	9,043	117,175	94,768	5,898	2,540	33,923	146,993	6,450	382	59,715
December					179,013	7,049	2,629	14,697	174,311	13,604	2,315	21,444
TOTAL	**1,304,485**	**125,228**	**66,712**	**619,699**	**1,782,328**	**73,464**	**58,791**	**537,873**	**2,619,981**	**114,528**	**94,752**	**586,968**

SAN DIEGO AREA FRESH FISH LANDINGS

Species	Nov. 1947	Dec. 1947	Jan. 1948	Feb.	March	April	May	June	July	Sept.	Oct.	**Total†**
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Anchovy			705									**705**
Barracuda	43,473	6,445	28,568	3,359	36,407	38,779	64,142	160,764	7,584		282	**339,885**
Cabrilla		9,139										
California Halibut	18,778	40,110	29,215	57,003	11,757	27,924	6,981	17,271	17,483	250	4,546	**172,430**
Grouper		8,499	63,493	12,732	17,200	700	2,219	138				**96,482**
Kingfish	14,207	3,330	1,179	9,864	13,835	6,006	1,454	1,663	338	185	2,988	**37,512**
Mackerel	4,988	3,977				2,592	50,227	85,134	3,615		21,215	**162,783**
Pilchards						10,734	278	19,647				**30,659**
Rockfish	8,486			331	2,114	15,734	492					**18,671**
Rock Bass	771	225		983	234	1,271	2,262	1,847	688			**7,285**
Seabass, Black	2,078	15,303	26,764	730	1,033	2,443	595	4,187	385			**36,137**
White	114			165			3,153		770		1,814	**5,902**
Sculpin				728								**728**
Shark	1,678	5,373	9,478	337		6,944	10,786	51,550	3,336		1,037	**83,468**
Sheepshead	120	300		467	123	113						**703**
Spiny Lobster	2,328	411		179	390						4,485	**5,054**
Swordfish	369								*532	8,522	3,970	**13,024**
Tuna: Albacore		333								8,996		**8,996**
Bonito	126						4,862	9,314			4,964	**19,140**
Skipjack		5,103										
Whitefish		288	1,666	1,076					100			**2,842**
Yellowtail	20,270	119,681	17,888	7,072	26,635	27,817	30,491	68,378	38,500		10,395	**227,176**
Miscellaneous	410	515	153	99	103	141	329	461	322	27	384	**2,019**
Total	**118,196**	**219,032**	**179,109**	**95,125**	**109,831**	**141,198**	**178,271**	**420,354**	**73,121**	**17,980**	**56,080**	**1,271,601**

* Landed in August. No other August deliveries reported.

† Totals are for 10 months of 1948.



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VITAMIN LIVER LANDINGS, SEATTLE

Year	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscellaneous Livers
	Pounds	Pounds	Pounds	Pounds
1942	2,149,178	....	333,009	....
1943	2,246,072	....	454,483	....
1944	4,909,547	....	406,563	....
1945	2,568,317	....	179,351	....
1946	2,619,981	114,528	94,752	586,968
1947	1,782,328	73,464	58,791	537,873
1948*	1,304,485	125,228	66,712	619,699

* Eleven months' totals.

1948 — FISH LIVER RECEIPTS BY SEATTLE DEALERS — 1948

Species	Dec 1947 Pounds	Jan. 1948 Pounds	Feb. Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	Sept. Pounds	Oct. Pounds	Nov. Pounds	Total* Pounds
Dogfish	185,739	70,898	81,868	79,534	263,542	275,581	110,699	63,007	58,593	79,917	117,853	124,792	**1,326,284**
Halibut Viscera	107,309	....	71,484	....	....	182,487	340,734	96,772	49,108	19,619	1,639	....	**761,843**
Sablefish Viscera	14,349	....	9,519	....	1,117	1,559	12,832	24,684	52,359	26,566	70,748	3,294	**202,678**
Lingcod	7,049	9,258	9,237	16,646	5,355	8,373	9,180	5,783	11,767	12,571	11,400	25,658	**125,228**
Soupfin Shark	2,629	5,293	14,272	8,251	17	302	....	10,084	7,243	6,925	5,282	9,043	**66,712**
Miscellaneous	20,294	7,143	22,785	35,000	16,794	97,716	80,729	78,832	50,719	92,059	50,565	117,175	**649,517**
Total	**337,369**	**92,592**	**209,165**	**139,431**	**286,825**	**566,018**	**554,174**	**279,162**	**229,789**	**237,657**	**257,487**	**279,962**	**3,132,262**

* Totals are for 11 months of 1948.

OREGON VITAMIN FISH LIVER LANDINGS

Year	SHARK				Ling Cod	Halibut	Sablefish	"True" Cod	Miscel. Cod	Miscel. Other	Total
	Dogfish	Soupfin	Bluefin	Miscel.							
1942	156,069	111,182	3,626	5,646	21,862	12,240	2,836	367	187	14,682	**328,697**
1943	283,817	272,580	17,154	5,496	21,759	10,818	9,142	503	253	2,585	**624,107**
1944	521,346	190,139	5,821	1,926	37,889	10,269	15,333	449	2,128	1,579	**786,879**
1945	266,402	70,472	10,948	39	29,228	8,455	10,851	440	6,763	1,012	**404,610**
1946	373,025	102,753	38,910	469	52,170	4,183	19,991	3,017	1,730	10,730	**606,978**
1947	251,578	61,857	3,328	1,273	15,203	6,324	897	190	4,224	1,077	**345,951**
1948	426,159	39,569	9,557	1,157	18,503	12,653	4,996	....	13,221	37,930	**563,745**

WASHINGTON TRAWL LANDINGS — 1930 TO 1948

(Data cover foodfish only.)

Year	Sole and Flounders	"Cod"	Lingcod	Sablefish	Rockfish	Miscellaneous	TOTAL	Year
1930	339,932	26,318	....	....	24	32,419	**398,693**	1930
1931	323,064	30,269	....	....	....	3,674	**357,007**	1931
1932	281,302	46,512	....	....	1,000	1,374	**330,188**	1932
1933	296,517	59,965	....	....	....	5,200	**361,682**	1933
1934	247,684	25,405	13,454	....	8,313	6,116	**300,972**	1934
1935	2,575,998	185,786	285,759	....	63,284	23,743	**3,134,570**	1935
1936	4,791,994	406,361	237,229	....	81,301	22,650	**5,539,535**	1936
1937	4,265,491	441,130	235,431	....	72,640	14,919	**5,029,611**	1937
1938	5,036,852	456,814	286,439	....	107,163	21,952	**5,909,220**	1938
1939	4,659,122	354,805	197,982	....	112,395	231,614	**5,555,918**	1939
1940	5,917,096	518,705	247,007	....	248,711	946,788	**7,878,307**	1940
1941	7,977,576	457,253	199,128	....	93,286	582,295	**9,309,538**	1941
1942	9,575,018	1,172,811	3,845,055	118,406	1,034,417	717,279	**16,462,986**	1942
1943	13,250,936	996,963	4,859,693	778,451	4,464,702	1,015,394	**25,366,139**	1943
1944	7,806.664	623 151	4,254.298	1,429,682	5,132,233	270,898	**19,516,926**	1944
1945	9,185,003	2,417,053	4,177,839	529,507	16,093,712	211,068	**32.614,182**	1945
1946	9,709,656	3,701,647	3,193,436	628,756	10,094,207	93,705	**27,421,407**	1946
1947	9,901,605	3,082,112	3,230,907	266,828	6,298,452	58,054	**22,837,958**	1947
1948	10,321,962	2,192,861	3,962,483	786,973	7,096,582	62,935	**25,423,796**	1948

OREGON OTTER TRAWL LANDINGS

Year	SOLE				Flounders	"Turbot"	"Cod" Miscel.	Lingcod	Rockfish	Dogfish	Total
	Petrale	English	Dover	Other							
1948	2,453,436	3,042,789	2,484,101	220,102	1,244,870	1,076,777	27,679	700,634	3,336,186	304,722	**14,891,296***
1947	1,443,936	1,883,438	2,031,905	139,791	667,347	723,497	30,194	569,226	4,637,594	92,344	**11,688,763**
1946	2,984,092	3,950,609	3,197,988	132,136	1,279,839	297,708	260,574	1,150,803	10,671,012	31,310	**23,956,071**
1945	1,574,143	1,096,601	2,704,216	238,507	1,024,288	168,811	412,731	1,015,215	17,365,866	40,554	**25,640,932**
1944	2,019,148	1,057,701	1,593,469	254,400	877,048	700,147	594,810	1,208,051	11,266,874	398,836	**19,970,484**
1943	3,805,094	898,639	6,431,666	2,239,125	858,051	2,831,013	32,731	934,878	6,762,494	1,601,368	**26,395,059**
1942	3,745,236	227,783	2,308,308	1,671,162	443,840	71,137	47,255	989,142	1,728,299	1,086,242	**12,318,404**

* January through September.

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OREGON VITAMIN FISH LIVER LANDINGS

—1948—

Species	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Lingcod	2,603	624	2,145	1,830	2,515	3,919	1,239	1,602	2,026				**18,503**
Skate		35	70			94							**199**
Halibut	1,393	1,597	2,720		48	2,903	1,929	1,310	753				**12,653**
Sablefish			23		35	598	786	2,530	1,024				**4,996**
"Cod," Misc.	754	607	282	232			11,129	78	139				**13,221**
SHARK—													
Dogfish	23,121	14,171	35,439	265,874	45,791	9,836	9,083	7,948	14,896				**426,159**
Soupfin	1,737	1,085	5,560	1,719	274	2,110	6,228	8,216	12,640				**39,569**
Bluefin	1,369	621		755		431	756	3,020	2,605				**9,557**
Miscellaneous	820		337										**1,157**
Livers, Misc.	58			760		4,022	2,471	29,860	560				**37,731**
TOTALS	**31,855**	**18,740**	**46,576**	**271,170**	**48,663**	**23,913**	**33,621**	**54,564**	**34,643**				**563,745**

—1947—

Lingcod	1,553	866	1,067	1,417	1,307	712	1,256	846	807	2,603	624	2,145	**15,203**
Skate	83			42	262						35	70	**492**
Halibut			1		81	260	10	262		1,393	1,597	2,720	**6,324**
Sablefish	197			76	182	145	192	82				23	**897**
Sole													
True Cod				28	119							43	**190**
Miscellaneous Cod	63	307	68	492	95	656	287	97	559	754	607	239	**4,224**
Miscellaneous	392		19	111		63							**585**
SHARK:													
Dogfish	55,336	13,653	37,819	27,900	5,541	8,826	7,885	2,870	19,017	23,121	14,171	35,439	**251,578**
Soupfin	10,195	13,943	5,160	270	21	615	3,396	9,097	10,778	1,737	1,085	5,560	**61,857**
Bluefin	81						175	579	503	1,369	621		**3,328**
Basking												337	**337**
Bonita										820			**820**
Miscelneous			47				69						**116**
TOTALS	**67,900**	**28,769**	**44,181**	**30,336**	**7,608**	**11,277**	**13,270**	**13,833**	**31,664**	**31,797**	**18,740**	**46,576**	**345,951**

—1946—

Lingcod	892	1,081	477	3,141	911	2,495	2,348	4,872	23,011	3,746	2,575	6,621	**52,170**
Skate					40		39	171				347	**597**
Halibut					873	1,296	749	541	116	233	296	79	**4,183**
Sablefish		383		1	40	1,604	3,277	2,747	864	4,113	5,091	1,921	**19,991**
Sole													
True Cod	9		4	29	55	1,020		1,133	197	73	497		**3,017**
Miscellaneous Cod	4			43	19	75	26	273	1,082	18		190	**1,730**
Miscellaneous				5	587	583	49	4,931	49	2,426	908	595	**10,133**
SHARK:													
Dogfish	16,992	14,290	9,208	27,907	72,028	18,102	3,436	6,000	45,548	12,427	88,772	58,315	**373,025**
Soupfin		2,960	6,538	2,350	70	48,849	2,006	15,914	7,080	6,965	6,502	3,519	**102,753**
Bluefin	5,485					359	1,040	8,098	10,898	6,406	6,246	378	**38,910**
Basking													
Bonita												42	**42**
Miscellaneous	39				154				154			80	**427**
TOTALS	**23,421**	**18,714**	**16,227**	**33,476**	**74,777**	**74,383**	**12,920**	**44,680**	**88,999**	**36,407**	**110,887**	**72,087**	**606,978**

—1945—

Lingcod	475	333	202	1,129	1,466	2,495	3,984	3,309	5,138	3,494	5,373	1,830	**29,228**
Skate													
Halibut					3,702	2,746	749	944	232	82			**8,455**
Sablefish					53	1,671	2,754	327	2,615	1,446	1,092	893	**10,851**
Sole	82												**82**
True Cod				376	8	31	19					6	**440**
Miscellaneous Cod	152				23	114	272	83	12	278	5,423	406	**6,763**
Miscellaneous				528	22	115	79			107	79		**930**
Shark:													
Dogfish	14,431	4,558	20,040	10,153	13,097	34,698	26,266	45,900	13,031	22,592	1,312	60,324	**266,402**
Soupfin	10,054	1,465	2,150	795	28	1,982	8,993	9,312	3,972	8,160	1,314	22,247	**70,472**
Bluefin	56					3	569	1,333	592	8,031	364		**10,948**
Basking													
Bonita			18										**18**
Miscellaneous								21					**21**
TOTALS	**25.250**	**6,356**	**22.410**	**12.981**	**18.399**	**43.855**	**43.685**	**61.229**	**25.592**	**44.190**	**14,957**	**85,706**	**404,610**

—1944—

Lingcod	676	485	1,742	3,813	2,764	4,426	5,963	11,424	2,920	1,937	331	1,408	**37,889**
Skate					33	3			2			2	**40**
Halibut	3	1	4		797	6,219	3,236		9				**10,269**
Sole								385				82	**467**
Sablefish			13	36	220	1,565	11,371	903	969	210	46		**15,333**
True Cod				3	7	25	48	366					**449**
Miscellaneous Cod			19	224	56	44	179	102	146	115	53	1,190	**2,128**
Miscellaneous			25		10	67	120	396	406	48			**1,072**
Shark:													
Dogfish	10,238	6,255	9,060	45,334	118,110	98,990	115,941	25,943	10,292	17,385	28,272	35,526	**521,346**
Soupfin	19,341	3,908	12,149	6	36	1,670	17,293	39,921	59,758	8,203	18,012	9,842	**190,139**
Bluefin						88	963	2,003	1,611	900	256		**5,821**
Basking							10	255					**265**
Bonita	11		9					152	37				**209**
Miscellaneous	32	10					397	324	623	9	41	16	**1,452**
TOTALS	**30,301**	**10,659**	**23,021**	**49,416**	**122,033**	**113,097**	**155,521**	**82,174**	**76,773**	**28,807**	**47,011**	**47,984**	**786,797**

*** These statistics do not include livers recovered from fish landed round, which would include principally dogfish, tuna, rockfish and some sole.**

1948 — FISHERY PRODUCTS IMPORTED FROM MEXICO — 1948

(Entered Through California and Arizona)

Species	November 1947	December 1947	January 1948	February	March	April	May	June	July	August	September	October	Grand Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Fish													
Barracuda									11,185	39,249			**50,434**
Cabrillo		7,816	622			11,574	273	369	844				**21,498**
Corbina	2,614	1,756		6,356	96,650	257,965	6,309	175	5,159	5,869	15,230	714	**398,797**
Grouper									5,159				**5,159**
Mackerel									1,500		912		**2,412**
Perch										9,067	4,752		**13,819**
Red Snapper					418								**418**
Sea Bass, Black	206								19,327				**19,533**
White									3,382				**3,382**
Totuava	58,910	98,791	104,224	143,208	645,236	43,890	686,709	121,795	19,283	1,703		1,093	**1,924,842**
Shark					1,040	744							**1,784**
Smelt, dried				133	250								**383**
Skipjack										900			**900**
Swordfish									2,947				**2,947**
Tuna, Albacore	2,966							648,000	433,411	472,252	16,087		**1,572,716**
Yellowtail									1,830				**1,830**
Unclassified, fresh and frozen	1,054	114,909		50,312	27,648	104,402	37,155	66,493	48,560	26,728	107,004	4,656	**588,921**
Salted						2,247		2,577					**4,824**
Dried			2,076		3,621				3,157	1,595	450		**10,899**
Total	**65,750**	**223,272**	**106,922**	**200,009**	**774,863**	**420,822**	**730,446**	**839,409**	**555,744**	**557,363**	**166,427***	**6,463**	**4,647,490***
Shellfish:													
Abalone, canned	567,300	378,240	241,728	91,200		133,844		323,472	423,600	621,442	525,328	315,792	**3,621,946**
Abalone, dried	7,954	12,805	16,286	11,734	12,600	24,238	1,988	7,550	10,332	14,299	6,800	3,500	**130,086**
Abalone, fresh		1,600	3,700	32,555					2,000	335	375		**40,565**
Clams in shell	12,104	40,682	34,784		33,828	21,444		14,944	33,201	4,243	2,838	17,322	**215,390**
Shrimp	1,723,432	1,708,205	1,395,389	1,729,428	2,128,239	702,444	538,636	235,162	91,810	74,680	535,920	1,065,443	**11,928,788**
Shrimp, dried		4,400											**4,400**
Spring Lobsters, cooked	214,217	54,788	93,881	133,128	122,350					10,960		15,140	**644,464**
Live		352,402	364,736	392,539	92,076							12,200	**1,213,953**
Octopus		5,548	1,072			323							**6,943**
Other	220												**220**
Total	**2,525,227**	**2,558,670**	**2,151,576**	**2,390,584**	**2,389,093**	**882,293**	**540,624**	**581,128**	**560,943**	**725,959**	**1,071,261**	**1,429,397**	**17,806,755**
Other Fishery Products													
Turtles										200			**200**
Livers: Sea bass	206	1,032	817	2,873	15,335	916	15,975	4,190		189	7,251		**48,784**
Shark	14,365	26,284	32,718	39,400	113,759	94,976	131,438	327,177	143,347	149,795	72,833	47,902	**1,193,994**
Unclassified			182		24			430					**636**
Oil: Sardine			168,083										**168,083**
Fish Sounds				1,281	40	5	4,652	4,840	274	1,018			**12,110**
Scrap					77,231								**77,231**
Shark Fins	200	2,298	2,710		8,271	1,566	1,698	5,929	6,499	7,557	1,500	7,987	**46,215**
Oil: Shark									99				**99**
Total	**14,771**	**29,614**	**204,510**	**43,554**	**214,660**	**97,463**	**153,763**	**342,566**	**150,219**	**158,759**	**81,584**	**55,889**	**1,547,352**
GRAND TOTAL	**2,605,748**	**2,811,556**	**2,463,008**	**2,634,147**	**3,378,616**	**1,400,578**	**1,424,833**	**1,763,103**	**1,266,906**	**1,442,081**	**1,319,272**	**1,491,749**	**24,001,597**

* Includes 21,992 pounds unclassified canned fish not shown above.

1948 Pacific Codfish Fleet Catch

Vessel	Owner	Dories	Pounds per Fish	Tons of Fish	Number of Fish
C. A. Thayer	J. E. Shields	12	2.75	288.7	210,000
Previous Years:					
	1947	24	3.20	384.8	240,424
	1946	27	3.15	383.0	242,907
	1945	12	3.44	247.8	144,317
	1944	10	3.36	255.0	151,322
	1943	No operation			
	1942	12	3.55	315.47	177,447
	1941	46	3.57	1,145.00	641,925
	1940	47	3.54	1,576.00	890,155
	1939	52	3.55	1,537.00	863,263
	1938	52	3.18	1,560.00	982,365
	1937	78	3.06	1,859.01	1,238,801
	1936	94	3.07	2,229.74	1,496,700
	1935	94	3.09	2,210.70	1,428,329
	1934	100	3.35	2,544.50	1,520,255
	1933	93	3.18	2,485.50	1,559,221

Year	Fish	Year	Fish
1932	1,203,231	1919	3,341,000
1931	1,214,460	1918	3,357,384
1930	1,774,075	1917	3,880,633
1929	1,882,200	1916	3,891,986
1928	1,580,752	1915	3,798,071
1927	1,632,928	1914	3,920,802
1926	2,351,060	1913	2,425,357
1925	3,112,489	1912	2,326,000
1924	2,407,989	1911	2,793,000
1923	2,629,507	1910	1,969,000
1922	1,957,000	1909	2,460,000
1921	1,969,000	1908	3,245,000
1920	3,027,500	1907	3,012,000

Pacific codfishing dwindled almost to the disappearing point in 1948, with only one outfit active—Capt. J. E. Shields and his veteran schooner *C. A. Thayer*.

They brought down a fairish *number* of fish, for only 12 dories, but *tonnage* was most disappointing, as the fish averaged smaller than in any previous catch in the history of salt banking in the North Pacific.

The 1948 fare of the *C. A. Thayer* averaged only 2.75 lbs. per fish, as against 3.2 lbs. last year, and an all-time average substantially above 3 lbs.

In addition to the *Thayer*, the converted minesweeper *Lynnanne* went to Bering Sea to trawl and salt codfish during the 1948 season, but she developed trouble and had a fruitless season.

GRAYS HARBOR SALMON CATCH, 1935-1947

Year	Chinook				Silver				Chum			Pink	**GRAND TOTAL (Numbers of Fish)**	Year
	Gillnet (Including Set Net)	Indian Fishery (a)	Troll(b)	Total Fish	Gillnet	Indian Fishery (a)	Troll(b)	Total Fish	Gillnet Etc. (c)	Indian Fishery (a)	Total Fish	Total Catch (d)		
1935	17,157	11,726	55,259	84,142	47,082	79,816	187,644	314,542	20,500	25,712	46,212	294	**445,190**	1935
1936	7,485	9,130	49,142	65,757	31,828	65,580	133,930	231,338	39,087	94,278	133,365		**430,460**	1936
1937	8,661	5,781	61,981	76,423	16,721	29,619	103,215	149,555	39,920	21,260	61,180	717	**287,875**	1937
1938	9,042	8,100	51,976	69,118	30,919	48,194	86,516	165,629	36,356	30,658	67,014		**234,747**	1938
1939	9,878	7,006	41,008	57,892	40,560	60,628	200,395	301,583	15,340	12,901	28,241	2,233	**389,949**	1939
1940	8,052	6,113	57,103	71,268	34,258	42,368	187,519	264,145	33,823	30,540	64,363		**399,776**	1940
1941	6,754	4,697	77,111	88,562	20,133	65,190	235,351	320,674	124,428	63,984	188,412	292	**597,940**	1941
1942	5,545	5,108	74,891	85,544	23,967	22,105	127,037	173,109	85,606	28,110	113,716		**372,369**	1942
1943	5,438	7,603	78,152	91,193	15,637	52,909	137,279	205,825	21,299	11,662	32,961	31	**329,010**	1943
1944	5,288	5,842	72,609	83,739	43,636	35,273	130,789	209,698	15,469	1,917	17,386		**310,823**	1944
1945	12,688	20,088	82,553	115,329	54,082	65,741	247,875	367,698	24,477	5,497	29,974		**513,001**	1945
1946	6,155	13,907	87,903	107,965	35,348	40,986	123,121	199,456	71,433	46,081	117,514		**424,935**	1946
1947	4,882	7,116	66,564	78,562	70,916	71,068	167,128	309,112	26,865	9,617	36,482	1,669	**426,825**	1947
1948				79,821				328,126			113,628		**521,575**	1948

(a) Indian fishery includes salmon taken by dip bag nets, drag seines, gillnets, set nets and purse seines within the boundaries of various Indian reservations

(b) Nearly all of the **troll** salmon was taken in "outside" (Pacific Ocean) waters.

(c) Chum salmon in this column include a few fish taken in some years by trollers in "outside" waters.

(d) Nearly all of the Pinks, caught only in odd-numbered years, were taken by trollers in "outside" waters, but include a few in some years from the Indian fishery.

WILLAPA HARBOR SALMON CATCH, 1935-1947

Year	Chinook			Silver			Chum Total Catch†	**GRAND TOTAL (Numbers of Fish)**	Year
	Gillnet	Troll*	Total Fish	Gillnet	Troll*	Total Fish			
1935	13,142	780	13,922	21,309	6,040	27,349	39,600	**80,871**	1935
1936	15,258	87	15,345	20,628	18	20,646	53,830	**89,821**	1936
1937	15,205		15,205	12,319		12,319	51,309	**78,833**	1937
1938	14,318		14,318	15,325		15,325	51,917	**81,560**	1938
1939	9,068	1	9,069	13,799	8	13,807	29,208	**52,084**	1939
1940	12,182	111	12,293	15,646	796	16,442	50,870	**79,605**	1940
1941	6,028	1,352	7,380	8,107	3,086	11,193	136,346	**154,919**	1941
1942	9,033	443	9,476	9,851	1,327	11,178	203,014	**223,668**	1942
1943	9,985	11	9,996	9,070	38	9,108	85,289	**104,393**	1943
1944	6,350	156	6,506	24,758	4,731	29,489	44,326	**80,321**	1944
1945	13,291	629	13,920	33,224	675	33,899	43,638	**91,457**	1945
1946	8,384	250	8,634	21,890	589	22,479	98,577	**129,690**	1946
1947	4,586	200	4,794	26,084	555	26,639	54,081	**36,514**	1947
1948			5,826			36,928	97,329	**140,083**	1948

*Troll Chinooks and Silvers were nearly all landed from "outside," but include a few in some years taken "inside."

†Practically all the Chums were caught "inside" with gillnets, but include a very few, in widely separated years, from "outside" trollers.

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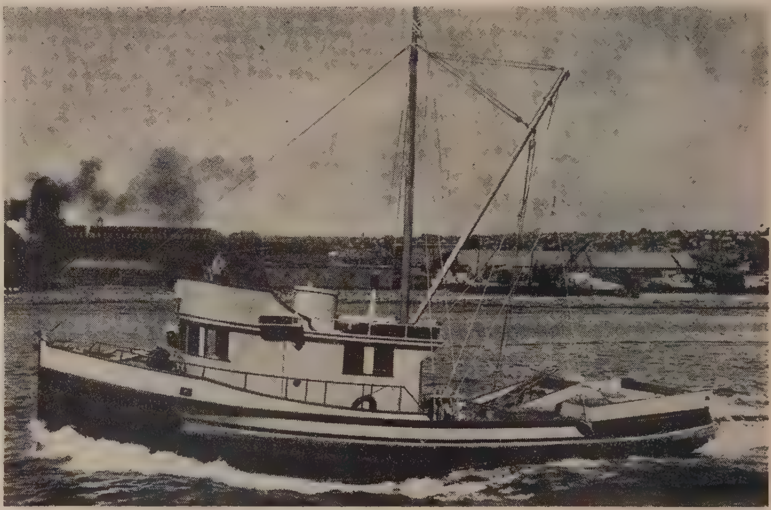
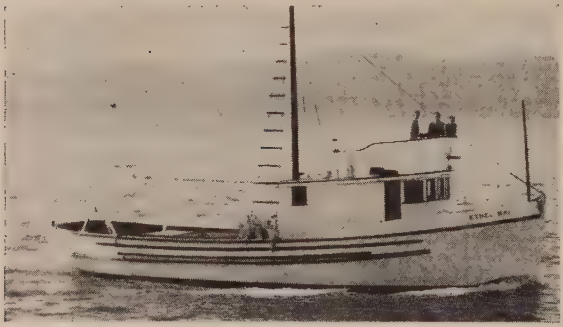
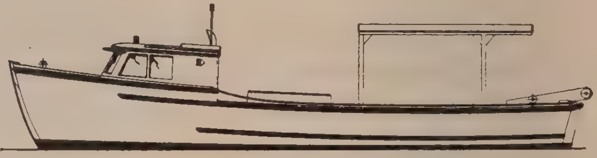


"TINY BOY III," Alaska limit seiner. 57′x15′ or 16′. Registered 50′ length. Wood construction. Speed to 10½ knots.

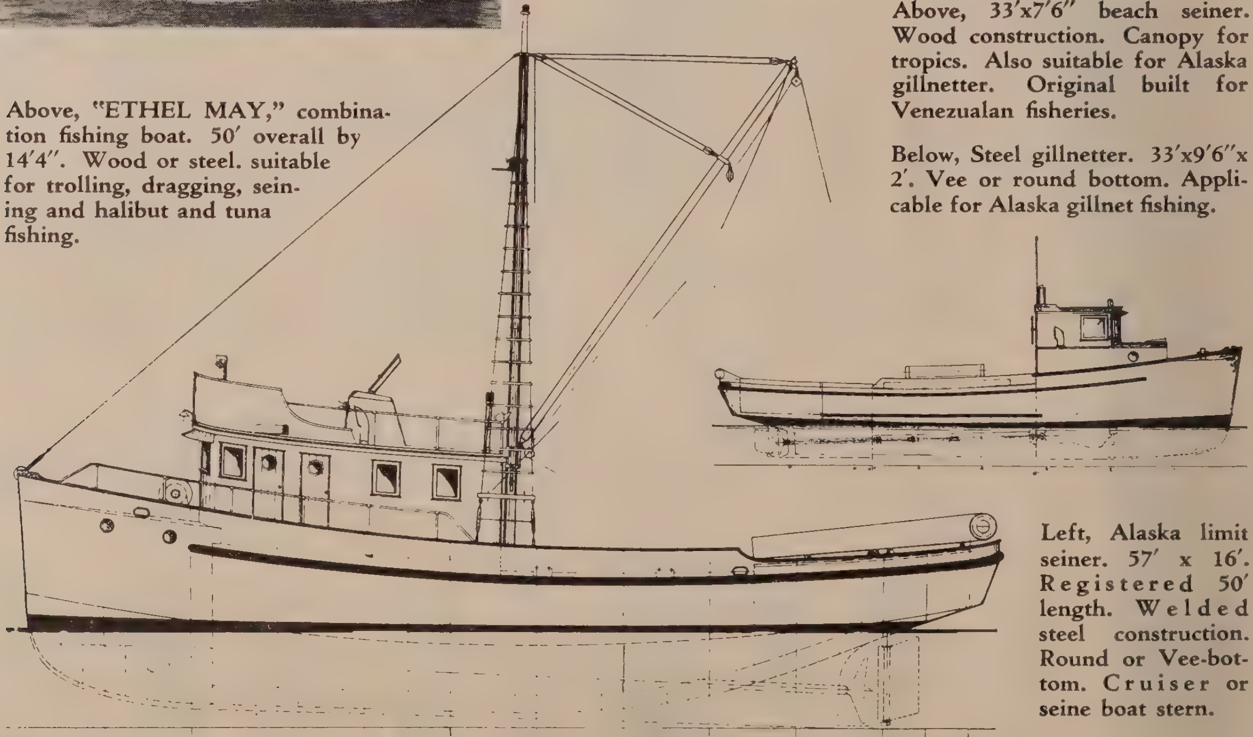




Above, 33′x7′6″ beach seiner. Wood construction. Canopy for tropics. Also suitable for Alaska gillnetter. Original built for Venezualan fisheries.

Below, Steel gillnetter. 33′x9′6″x 2′. Vee or round bottom. Applicable for Alaska gillnet fishing.

Above, "ETHEL MAY," combination fishing boat. 50′ overall by 14′4″. Wood or steel. suitable for trolling, dragging, seining and halibut and tuna fishing.



Left, Alaska limit seiner. 57′ x 16′. Registered 50′ length. Welded steel construction. Round or Vee-bottom. Cruiser or seine boat stern.

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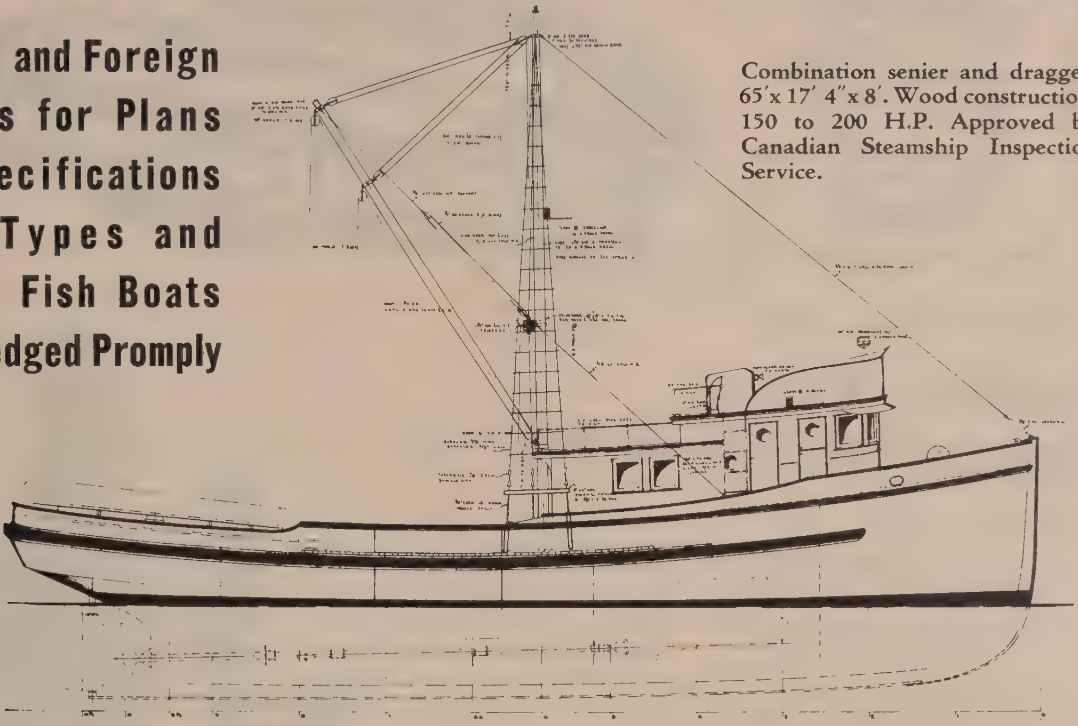
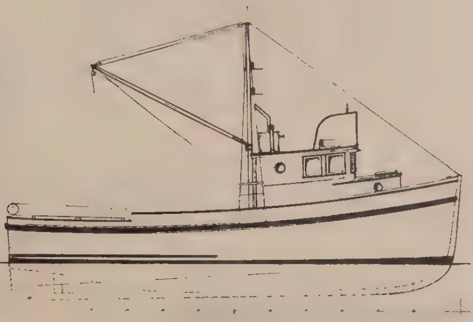
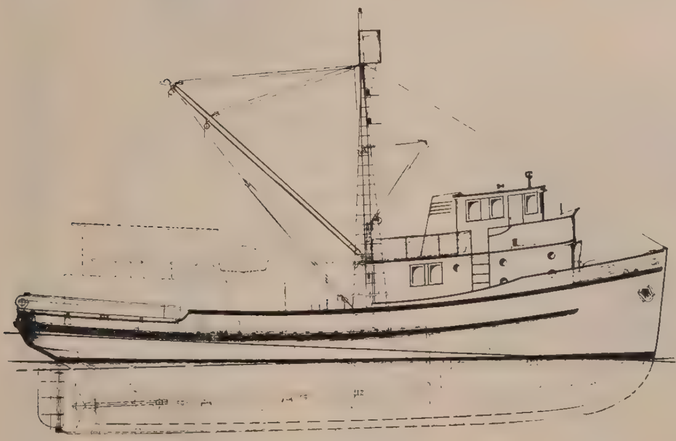


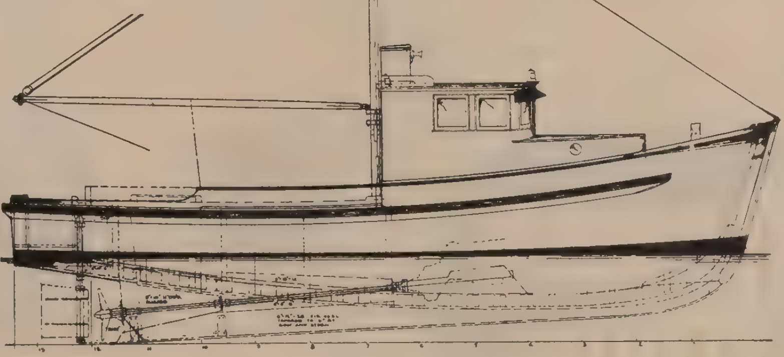
Combination senier and dragger. 65'x 17' 4"x 8'. Wood construction. 150 to 200 H.P. Approved by Canadian Steamship Inspection Service.

Below: 38'x12'x3' baby seiner. Wood construction. Round bottom.





Above: 80'x22'x9' tuna boat designed for service in South African fisheries. Wood construction. Suitable for both seine and bait fishing. 300 H.P.



Right: This 36-footer combines features of the Hawaiian Sampan fishing vessel with the traditional Northwest trolling boat. Wood construction.

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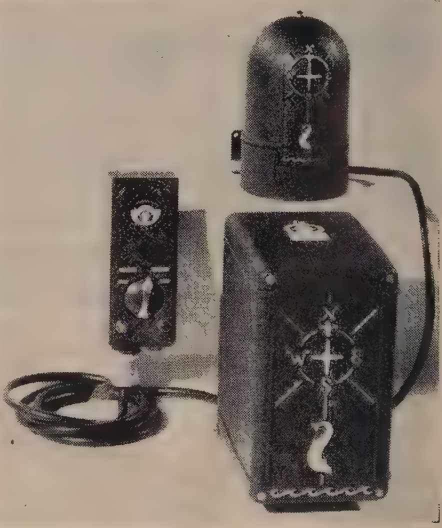

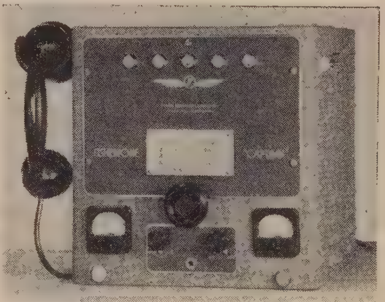

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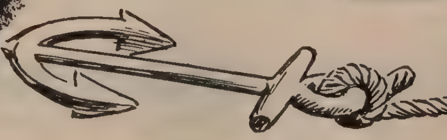

MILD CURE

A light run of troll King salmon in Alaska, coupled with keen demand for salmon in canneries and the fresh fish markets, kept Pacific mild curing in 1948 to the lowest level in 30 years, with the single exception of 1943.

With a pack of only 8,526 tierces, the mild cure salmon industry of the North Pacific in 1948 cured less fish than in any season in 30 years, save only 1943, when wartime conditions kept salmon splitting to 5,889 tierces.

In Alaska all the fish which offered was cured, freezing of troll King salmon being kept to low levels, but the run was short and fishing poor during most of the season, which was virtually over by the end of August.

The Alaska pack was down to 5,076 tierces, put up by the old-line splitters, with a number of those houses which packed mild cure in previous years dropping out of the 1948 venture.

To light fishing must be ascribed the reduction of nearly 900 tierces under the tierced pack of the previous season.

British Columbia Production Is Curtailed by Exports

As in two or three previous years, the British Columbia mild cure pack was cut in 1948 by the export of large quantities of cooperative fish for curing in Seattle.

The pack of 1,025 tierces reported in British Columbia shows shrinkage of 650 tierces from the 1948 production of the province.

Puget Sound's mild cure pack of 2,282 tierces was narrowly the best in some years, but showed no important departure from the pattern of recent seasons.

Almost exactly half of the production was custom-packed from Canadian fish shipped fresh to Seattle by the Kyuquot Cooperative.

Columbia and California Keep Curing to a Minimum

Interest in salmon mild curing dwindled to negligible proportions on the Columbia River and in northern California during 1948. Decline of the California pack from 919 tierces in 1947 to 70 in 1948 was one of the primary factors in the shrinkage in the year's production. The California output was cured by a single packer, F. J. Hyman at Fort Bragg.

1948 – MILD CURED SALMON – 1948

COMPANY	LOCATION	TIERCES (825 LBS. NET)
ALASKA		
Alaska Coast Fisheries Co.	Juneau	79
Atlantic & Pacific Packing Co.	Juneau	158
	Ketchikan	190
	Pelican	381
	Sitka	307
Booth Fisheries Corporation	Juneau	10
	Pelican	205
McCallum-Legaz Fish Co.	Sitka	167
New England Fish Co.	S. E. Alaska	348
Northern Commercial Co.	Yukon River	85
Oxenberg Brothers, Inc.	Ketchikan	202
	Sitka	162
	Wrangell	64
Polar Fisheries	Ketchikan	222
Phillips, E. C.	Ketchikan	27
Rupert Fish Co.	Ketchikan	245
Seaboard Fishing Co.	Ketchikan	47
	Wrangell	55
Sebastian-Stuart Fish Co.	Juneau	251
	Pelican	310
	Sitka	279
	Tyee	70
	Wrangell	32
Stikine Fish Co.	Wrangell	39
Union Trade & Packing Co.	Kalinin Bay	311*
Vita Food Products, Inc.	Ketchikan	143
	Petersburg	27
	Sitka	189
Whiz Fish Products Co.	Ketchikan	100
	Pelican	353
	Petersburg	18
Total Alaska		**5,076**
BRITISH COLUMBIA		
British Columbia Packers, Ltd.	All Stations	578
Canadian Fishing Co., Ltd.	All Stations	22
Prince Rupert Fishermen's Cooperative Association	Prince Rupert	396
Miscellaneous Cooperatives	All Stations	29
Total British Columbia		**1,025**
PUGET SOUND		
Booth Fisheries Corporation	Seattle	10
Eardley Fish & Fillet Co.	Seattle	1,097
New England Fish Co.	Puget Sound	404
McCallum-Legaz Fish Co.	Seattle	95
Oxenberg Bros., Inc.	Seattle	178
San Juan Fishing & Packing Co.	Seattle	300
Sebastian-Stuart Fish Co.	Seattle	68
Washington Fish & Oyster Co.	Seattle	15
Whiz Fish Products Co.	Seattle	115
Total Puget Sound		**2,282**
COLUMBIA RIVER		
Oxenberg Bros., Inc.	Astoria	49
San Juan Fishing & Packing Co.	Warrenton	10
Union Fishermen's Coop. Packing Co.	Astoria	18†
Total Columbia River		**77**
CALIFORNIA		
Hyman, Frank J.	Fort Bragg	70
TOTAL PACIFIC COAST		**8,526**

NOTE:—All tierces are Kings, unless otherwise specified. *Includes 31 tierces of Silvers. †Includes 5 tierces of Silvers; also packed 3 tierces of Chums.

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Cannery and Fresh Market Competition Proves Acute

With the price of troll salmon to the fisherman at fancy levels throughout the entire 1948 season, and with the memory of the 1948 spring break in frozen salmon prices grimly in mind, buyers were not at all anxious to freeze the King salmon bought at these steep prices. Neither were they too keen about putting these top-price fish into tierces, where they might be caught with an adverse market trend.

Availability of a quick profit in the fresh fish market looked pretty good, and most of the dealers took it rather than to risk putting the fish into casks.

Albacore Fishing Favors Troll Gear and Cuts Salmon Catch

The year 1948 was an Albacore jig fisherman's year—perhaps the best these tuna trollers ever had—and the trollers went for tuna like a Silver for an egg-wobbler. The productive troll fishing for Albacore ran well into September and held the attention of the fleet. With the appearance of tuna as far north as Dixon Entrance, this fishing served to divert even a portion of the Alaska trolling craft from their usual salmon fishing.

PACIFIC MILD CURED SALMON PACK — 1900 to 1948

(IN TIERCES OF 825 LBS. NET WEIGHT)

YEAR	Alaska	British Columbia	Puget Sound	Columbia River	Oregon Coast	California Coast	Sacramento River	Kamchatka	Recapitulation		Annual Totals	YEAR
									Kings	Silvers		
1900				1,275			950		Segregation of pack as to species not available for years prior to 1923		**2,225**	1900
1901	67		600	3,000			3,100				**6,767**	1901
1902	67		425	4,213	188	504	2,325				**7,722**	1902
1903	8		824	6,725		354	3,600				**11,511**	1903
1904	34		1,250	9,088		448	4,719				**15,539**	1904
1905	189	1,175	3,000	9,805	415	310	2,979				**17,873**	1905
1906	1,126	957		8,000	740	685	2,177				**13,685**	1906
1907	1,657	1,993	2,060	6,070	860	722	4,102				**17,464**	1907
1908	1,378	1,060		4,960		252	3,243				**10,893**	1908
1909	2,292	1,560	2,109	5,540	664	991	5,111				**18,267**	1909
1910	3,357	1,638	2,435	7,922	1,465	75	5,516				**22,408**	1910
1911	3,164	2,006	2,745	8,185	1,377	770	2,011				**19,758**	1911
1912	5,245	1,380	3,013	5,824	3,479	100	3,274				**22,315**	1912
1913	7,440	2,125	3,631	5,746	2,681	550	4,789				**26,952**	1913
1914	3,872	3,182	1,934	5,205	457	1,476	1,829				**17,955**	1914
1915	2,966	1,119	2,235	4,078	333	945	1,630				**13,306**	1915
1916	4,475	767	1,755	4,656	194	1,069	650				**13,566**	1916
1917	2,955	429	1,063	1,886		300	1,508				**8,181**	1917
1918	4,234	729	1,093	1,804	275	721	1,913				**9,869**	1918
1919	6,803	1,173	2,423	3,328	148	2,381	2,355				**18,611**	1919
1920	2,770	1,116	2,036	2,275	102	1,793	1,345				**11,437**	1920
1921	3,966	1,076	4,517	3,051	160	1,251	812				**14,833**	1921
1922	5,158	2,253	4,727	1,621	162	550	1,195				**15,666**	1922
1923	4,075	1,819	5,799	1,769	176	1,229	606		15,129	344	**15,473**	1923
1924	6,069	2,969	6,409	2,320	286	2,624	1,291		21,476	492	**21,968**	1924
1925	7,119	3,098	5,600	2,746	547	2,241	1,523	500	22,530	844	**23,374**	1925
1926	5,781	2,183	4,087	1,055	1,205	929	1,767	650	16,585	1,072	**17,657**	1926
1927	8,982	2,689	5,160	951	918	927	1,125	854	19,390	2,216	**21,606**	1927
1928	5,784	2,676	4.304	1,305	2,163	1,686	179	783	14,051	4,046	**18,880**	1928
1929	5,477	3,016	4,311	1,969	1,787	1,160	155	1,083	15,749	3,209	**18,958**	1929
1930	5,331	2,630	4,361	1,068	102	1,184	124	2,144	16,049	895	**16,944**	1930
1931	4,123	1,083	5,700	1,251	372	1,027	164	712	13,862	570	**14,432**	1931
1932	5,560	1,542	3,650	2,012	1,119	752	294	640	13,443	2,126	**15,569**	1932
1933	4,852	3,097	3,527	2,431	660	1,392	37	340	15,295	1,041	**16,336**	1933
1934	4,908	4,657	3,882	1,855	270	1,572	5	776	16,960	965	**17,925**	1934
1935	**5,487**	2,665	3,563	1,730	210	2,090	**439**	670	15,450	**1,404**	**16,854**	1935
1936	**5,222**	1,642	4,897	1,138	68	1,939	366	840	15,611	495	**16,106**	1936
1937	6,373	4,055	2,775	604		1,026	49	778	15,552	108	**15,660**	1937
1938	7,786	3,128	3,657	1,292	387	627	945	787	16,451	2,158	**18,609**	1938
1939	**7,724**	2,802	2,937	501	20	417	119	**600**	14,905	224	**15,129**	1939
1940	5,210	693	3,531	33		711	308	11	10,283	714	**10,497**	1940
1941	8,862	1,474	3,561	229		360	15		14,174	302	**14,501**	1941
1942	6,748	1,055	2,494	20					10,241	76	**10,317**	1942
1943	3,869	811	**1,022**	21		166			5,278	611	**5,889**	1943
1944	3,518	2,019	959	16		1,259	1,329		7,969	*1,050	**9,100**	1944
1945	7,763	1,209	1,790	159		*1,065	1,570		10,843	*3,200	**13,556**	1945
1946	6,824	1,975	2,170	96			†2,764		13,216	613	**13,829**	1946
1947	5,919	1,675	2,129	99		†	919		10,631	110	**10,741**	1947
1948	5.076	1,025	2,282	77		70			8,490	36	**8,526**	1948

NOTE:—Mild cured Falls not included. † Segregation as to districts not available.
* Estimated segregation. In 1945 the Silver category includes 200 tierces of Sockeyes

Landings of Fish on the Oregon Side of the Columbia River

JANUARY-SEPTEMBER, 1948

Month	Salmon					Sturgeon		Smelt	Shad	Striped Bass	Total Poundage
	Chinook	Steelheads	Blue Back	Silver	Chums	White	Green				
January	101	856		10		1,932		398,526			**401,425**
February	125,323	85,693		42		12,084		302,615	10		**525,767**
March	11,054	5,526				905		13,133			**30,618**
April	58,623	74				3,843					**62,540**
May	1,271,219	21,165				67,598	837		67,517	27	**1,428,363**
June	144,498	2,909	314			22,830	472		173,994		**345,017**
July	239,077	284,332	62,345	8		101,452	3,350		110,287	37	**800,888**
August	5,482,259	479,412	2,175	3,460		86,562	1,664		1,728		**6,057,260**
September	5,023,341	396,760	339	226,659	24	49,418	739		33		**5,697,313**
Totals	**12,355,495**	**1,276,727**	**65,173**	**230,179**	**24**	**346,624**	**7,062**	**714,274**	**353,569**	**64**	**15,349,191**

NOTE:—Data does not include ocean-caught fish.

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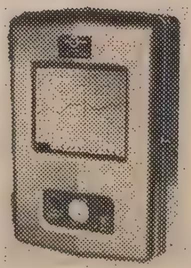

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1946-1947-1948 CALIFORNIA SALMON FISHERY BY MONTHS

YEAR AND MONTH	EUREKA REGION Pounds	SAN FRANCISCO REGION Pounds	*MONTEREY REGION Pounds	TOTAL OCEAN FISHERY Pounds	SACRAMENTO REGION Pounds	GRAND TOTAL Pounds	YEAR AND MONTH
1946							**1946**
January					9,634	9,634	January
February					96,271	96,271	February
March					208,076	208,076	March
April	161,749	434,740	214,796	811,285	666,511	1,477,796	April
May	771,141	342,003	190,677	1,303,821	1,187,111	2,490,932	May
June	558,904	170,692	78,553	808,149	132,114	940,263	June
July	1,424,532	520,109	78,651	2,023,292		2,023,292	July
August	1,159,570	403,052	8,793	1,571,415	487,022	2,058,437	August
September	438,301	208,853		647,154	3,673,636	4,320,790	September
October	29,840			29,840		29,840	October
November					1,166	1,166	November
December					1,704	1,704	December
Total	**4,544,037**	**2,079,449**	**571,470***	**7,194,956**	**6,463,245**	**13,658,201**	.....**Total**
1947							**1947**
January					14,370	14,370	January
February					64,314	64,314	February
March					38,801	38,801	March
April	403,262	148,253	115,376	666,891	78,353	745,244	April
May	637,913	152,763	187,182	977,858	444,041	1,421,899	May
June	358,282	30,569	89,764	478,615	109,071	587,686	June
July	2,791,043	290,069	233,854	3,314,966		3,314,966	July
August	1,540,585	763,540	123,031	2,427,156	230,523	2,657,679	August
September	137,492	100,463	129	238,084	2,377,230	2,615,314	September
October							October
November					5,221	5,221	November
December					18,560	18,560	December
Total	**5,868,577**	**1,485,657**	**749,336***	**8,103,570**	**3,380,484**	**11,484,054**	.....**Total**
1948							**1948**
January					29,888	29,888	January
February					84,261	84,261	February
March					68,388	68,388	March
April	43,879	113,315	24,641	181,835	181,353	363,188	April
May	698,072	275,922	17,840	991,834	254,730	1,246,564	May
June	938,672	312,733	50,276	1,301,681	58,390	1,360,071	June
July	942,738	506,284	86,668	1,535,690		1,535,690	July
August	1,226,590	158,575	52,836	1,438,001	70,144	1,508,145	August
September	137,655	175,635	18,529	331,819	995,531	1,327,350	September
October					†		October
November					†		November
December					†		December
Total	**3,987,606**	**1,542,464**	**250,790***	**5,780,860**	**1,742,685**	**7,523,545**	.....**Total**

*Includes small amounts of salmon landed in Santa Barbara Region.

† Not available.

Troll Salmon Curtailment Approved by Pacific States

Some curtailment of salmon trolling, to which the mild cure industry looks for its supply of fish, can be anticipated in 1949 and future years as result of agreement of the Pacific states to a program of conservation designed to protect ocean salmon in the smaller sizes, and in those seasons when the catch runs largely to immature fish.

This action was taken as result of accumulating evidence that the productiveness of the ocean salmon fishing was declining.

As result of this condition, and following ineffective efforts along similar lines in 1948, the Pacific states, through the Pacific Marine Fisheries Commission went into 1949 pledged to seek salmon trolling limitation along these lines:

1. Open season for King salmon trolling only from March 15 to Oct. 31; and for Silvers from June 15 to Oct. 31.

2. Minimum legal size limit of 26", tip to tip, on troll King salmon.

Although the U. S. Fish and Wildlife Service, governing the Alaska fishery, and the Canadian Department of Fisheries, regulating the fishing of British Columbia, did not participate officially in the troll conservation agreement, they did give tacit indication that regulations in the province and the territory would be brought in line with those of the coastal states, at least so far as all but strictly local considerations are involved.

In Southeast Alaska, for example, it was anticipated that winter trolling in inside waters would be permitted.

Otherwise the regulations probably will be brought closely into line with those to which the Pacific states are committed.

Annual Oregon Troll Salmon Landings 1942 to 1948

COLUMBIA RIVER		YEARS	COASTAL PORTS		STATE TOTAL		**Oregon Total, Both Pounds**
CHINOOK Pounds	SILVER Pounds		CHINOOK Pounds	SILVER Pounds	CHINOOK Pounds	SILVER Pounds	
323,769	100,843	..1942.	320,766	926,936	644,535	1,027,779	**1,672,314**
157,814	125,618	..1943.	247,349	534,813	405,163	660,431	**1,065,594**
457,721	286,637	..1944.	815,254	1,184,605	1,272,975	1,471,242	**2,744,217**
1,012,524	231,774	..1945.	979,105	950,614	1,991,629	1,182,388	**3,174,017**
1,063,943	478,100	..1946.	1,522,452	935,281	2,586,395	1,413,381	**3,999,776**
626,276	598,735	..1947.	1,948,432	1,278,140	2,574,708	1,876,875	**4,451,583**
530,856	384,476	.*1948.	972,479	887,160	1,503,335	1,271,636	**2,774,971**

* Data for first nine months only.

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TROLL SALMON LANDINGS IN OREGON

1948

Columbia River		Months	Coastal Ports		State Total		Oregon, Total, Both Species, Pounds
Chinook Pounds	Silver Pounds		Chinook Pounds	Silver Pounds	Chinook Pounds	Silver Pounds	
3,317		January			3,317		3,317
946		February	209	276	1,155	276	1,431
2,412		March	970	252	3,382	252	3,634
65,523		April	2,863		68,386		68,386
200,177	44	May	31,498	48	231,675	92	231,767
61,977	133	June	19,743	152	81,720	285	82,005
36,669	145,920	July	203,591	500,084	240,260	646,004	886,264
119,613	126,166	August	532,816	279,290	652,429	405,456	1,057,885
40,222	112,213	September	180,789	107,058	221,011	219,271	440,282
530,856	**384,476**	**Totals**	**972,479**	**887,160**	**1,503,335**	**1,271,636**	**2,774,971**

1947

41	354	January	40	38	81	392	473
28,275		February	3,121	208	31,396	208	31,604
12,732	161	March	3,889	297	16,621	458	17,079
30,448	2,208	April	213,335	534	243,783	2,742	246,525
112,446	8,097	May	254,487	8,523	366,933	16,620	383,553
23,725	102,951	June	99,655	202,294	123,380	305,245	428,625
38,173	132,074	July	618,010	653,393	656,183	785,467	1,441,650
298,759	153,165	August	504,611	292,514	803,370	445,679	1,249,049
78,146	124,926	September	236,159	98,976	314,305	223,902	538,207
3,287	59,919	October	5,680	19,197	8,967	79,116	88,083
25	14,880	November	9,337	2,166	9,362	17,046	26,408
219		December	108		327		327
626,276	**598,735**	**Totals**	**1,948,432**	**1,278,140**	**2,574,708**	**1,876,875**	**4,451,583**

1946

	20	January	76		76	20	96
12,723		February	479	526	13,202	526	13,728
185,735		March	147	218	185,882	218	186,100
411,526		April	1,097		412,623		412,623
169,788	126	May	115,585	3,235	285,373	3,361	288,734
22,879	10,365	June	144,003	105,480	166,882	115,845	282,727
24,747	54,198	July	222,992	248,357	247,739	302,555	550,294
110,418	36,563	August	612,558	195,794	722,976	232,357	955,333
117,949	298,444	September	386,822	313,173	504,771	611,617	1,116,388
7,914	77,270	October	38,638	68,221	46,552	145,491	192,043
108	946	November	55	123	163	1,069	1,232
156	168	December		154	156	322	478
1,063,943	**478,100**	**Totals**	**1,522,452**	**935,281**	**2,586,395**	**1,413,381**	**3,999,776**

1945

		January	62	30	62	30	92
9,734		February	329	725	10,063	725	10,788
14,669		March	173	243	14,842	243	15,085
389,007	794	April	1,401		390,408	794	391,202
351,398	893	May	17,312	1,038	368,710	1,931	370,641
120,286	65,234	June	73,151	7,285	193,437	72,519	265,956
14,910	4,677	July	25,908	32,023	40,818	36,700	77,518
56,697	52,433	August	406,847	411,378	463,544	463,811	927,355
39,600	113,952	September	386,528	447,607	426,128	561,559	987,687
16,223	53,791	October	67,394	50,285	83,617	104,076	187,693
472	1,661	November	7,885	6,014	8,357	7,675	16,032
877		December	148	500	1,025	500	1,525
1,013,873	**293,435**	**Totals**	**987,138**	**957,128**	**2,001,011**	**1,250,563**	**3,251,574**

1944

141,734	1,073	April	1,274		143,008	1,073	144,081
85,648	8,018	May	493	2,536	86,141	10,554	96,695
120,085	28,213	June	110,070	96,405	230,155	124,618	354,773
38,939	23,511	July	114,383	158,914	153,322	182,425	335,747
60,595	127,074	August	345,601	471,698	406,196	598,772	1,004,968
7,125	61,044	September	213,985	330,708	221,110	391,752	612,862
3,529	37,540	October	29,288	122,878	32,817	160,418	193,235
		November	150	1,466	150	1,466	1,616
66	164	December	10		76	164	240
457,721	**286,637**	**Totals**	**815,254**	**1,184,605**	**1,272,975**	**1,471,242**	**2,744,217**

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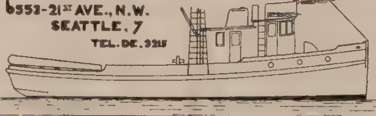

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British Columbia Oystering Recovering from Seed Famine

Oyster canning in British Columbia was in negligible volume in 1948, but the oyster industry is being rapidly restored from its wartime depression resulting from lack of seed from the Orient.

By 1951-52 it is expected that British Columbia will have a potential crop of 100,000 gals. Forty-five hundred cases of seed were ordered for the March, 1949, allocation through the Pacific Oyster Growers Association. About two-thirds of this quantity is for B. C. Packers, Ltd., which is planning to expand its oyster operations to some extent during the coming years. The company maintains crab traps at Parsons Bridge near Esquimalt and on the west side of Vancouver Island, has plans for developing native oyster beds and recently leased a considerable area for this purpose and started building a fleet of vessels.

Operational research services will be offered to oyster fishermen and packers as well as to other shellfish interests in 1949 by the British Columbia government through the establishment of a shellfish branch of the department of fisheries.

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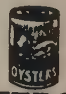

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OYSTERS

Pacific oyster operations were demoralized in 1948 by capricious rulings of the Food and Drug Administration which, refusing to recognize differences in physical characteristics between species, applied identical standards to all canned oysters, regardless of size and quality.

This imposed virtually insuperable handicaps upon the Pacific oyster canning industry.

Pacific oyster canning revived vigorously in the season of 1947-48, as shown by the accompanying statistical data. The pack ran-up to 102,259 cases in that season from 57,000 cases in 1947.

Even greater activity was expected in the 1948-49 season, but this was blighted by action of the Food and Drug Administration, which capriciously declared that all canned oysters must conform to identical standards, regardless of the different physical characteristics of the several species.

This imposed virtually impossible handicaps upon Pacific oyster packing, because the size and character of the oysters made it possible to conform to the standards only by sacrifice of quality.

Application of these standards was challenged in court by one packing company, which secured an order suspending the application of the standards. Food and Drug Administration, however, refused to extend this order to other canners.

Effect of this FDA position was to confer a monopoly in Pacific oyster canning on this one firm.

Other companies were unable to can oysters under the standards, and accordingly were forced to market their crops in the fresh market.

Fresh oyster market during the fall months of 1948 and early 1949 was very good. This was due in considerable degree to active resumption of buying by the armed forces.

PACIFIC CANNED OYSTERS

Season of 1947-48

COMPANY	CANNERY LOCATION	CASES No. 1, E. O. (4 Doz.)	CASES OTHER SIZES	**Total Standard Cases 48, No. 1, E. O.**
Bendiksen, E. H	South Bend, Wash.	28,661	....	**28,661**
Davis Co., W. E.	Aberdeen,	1,500	....	**1,500**
Northern Oyster Co.	Oysterville	1,050	100	**1,210**
Wiegardt Bros	Ocean Park	15,658	769	**16,888**
Willapoint Oysters, Inc.	South Bend	54,000	....	**54,000**
Total 1947-48 Season	....	**100,869**	**869**	**102,259**

Pacific Canned Oysters Packed in—

1947	**57,205**	1942	**72,315**	1936	**118,853**
1946	**89,050**	1941	**178,445**	1935	**88,062**
1945	**3,184**	1940	**148,870**	1934	**68,323**
1944	**none**	1939	**112,549**	1933	**32,315**
1943	**583**	1938	**111,348**	1932	**12,233**
		1937	**110,872**	1931	**7,930**

NOTE:—Packs of smoked oysters are not included in the totals in the column showing packs in standard cases. This total column is concerned only with steam-canned oysters.

Figures prior to 1948 are from the U. S. Fish and Wildlife Service, compiled on a calendar year basis.

OREGON SHELLFISH — 1945-1948

CRABS (DOZEN)				MONTHS	CLAMS (POUNDS			
1945	1946	1947	1948		1945	1946	1947	1948
17,006	17,065	22,660	35,592	January	10,481	12,150	26,936	19,953
19,199	21,815	27,457	37,973	February	23,314	30,471	33,572	15,875
17,315	30,732	40,555	63,516	March	53,499	61,310	47,126	33,408
41,706	34,074	46,527	87,353	April	29,843	33,600	31,537	38,856
47,675	80,626	78,649	96,885	May	29,458	44,313	58,325	61,816
43,305	34,414	50,317	34,841	June	57,569	67,755	38,980	50,750
10,820	13,694	20,806	15,171	July	67,578	41,399	66,384	55,484
10,413	5,783	7,188	9,098	August	34,961	31,983	33,868	40,914
4,226	4,568	3,813	4,969	September	21,768	21,130	13,353	15,631
9,135	8,859	3,686	*	October	12,505	8,883	3,201	*
9,807	12,834	8,621	*	November	9,341	18,237	12,533	*
12,419	14,814	3,971	*	December	10,822	12.519	3,199	*
243.026	**279.278**	**314.250**	**385.398**	Totals	**361.139**	**383.750**	**369,014**	**332.687**

* Data not available.

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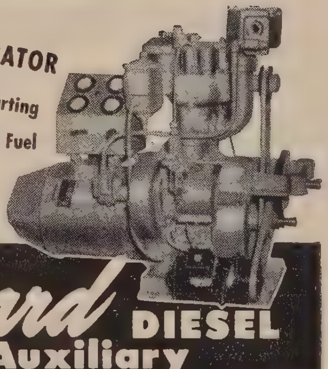

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Oyster Seed Planting

Planting of imported Pacific oyster seed in Pacific Northwest waters in 1948, and orders for seed for 1949 planting, given in cases, were:

Area	*1948*	*1949*
California—		
Moro Bay	500	....
Tomales Bay	350	350
Oregon—		
Coos Bay	3,400	230
Alsea Bay	300	130
Yaquina Bay	1,250	1,800
Tillamook Bay	1,005	2,500
Washington—		
Willapa Harbor	14,685	17,495
Grays Harbor	1,150	1,450
North Puget Sound	5,562	5,885
South Puget Sound	1,962	4,544
British Columbia	2,675	4,829
Totals	32,839	39,213

Natural oyster setting in Pacific Northwest waters generally was satisfactory in 1948. This was true as well of the native oysters as of the Pacifics.

Conditions for Pacific oyster setting in Willapa Harbor were not regarded as favorable in 1948, but the seeding was rated "satisfactory" notwithstanding.

Included in the figures given above for 1949 seed imports are 1,000 cases of Kumamoto seed, a different species, growing in warmer waters, and being planted experimental.

This Kumamoto seed will be planted as follows: 784 cases in Willapa Harbor; 177 cases in South Puget Sound; 39 cases in North Puget Sound.

Alaska Cured Herring Pack — 1910 to 1948

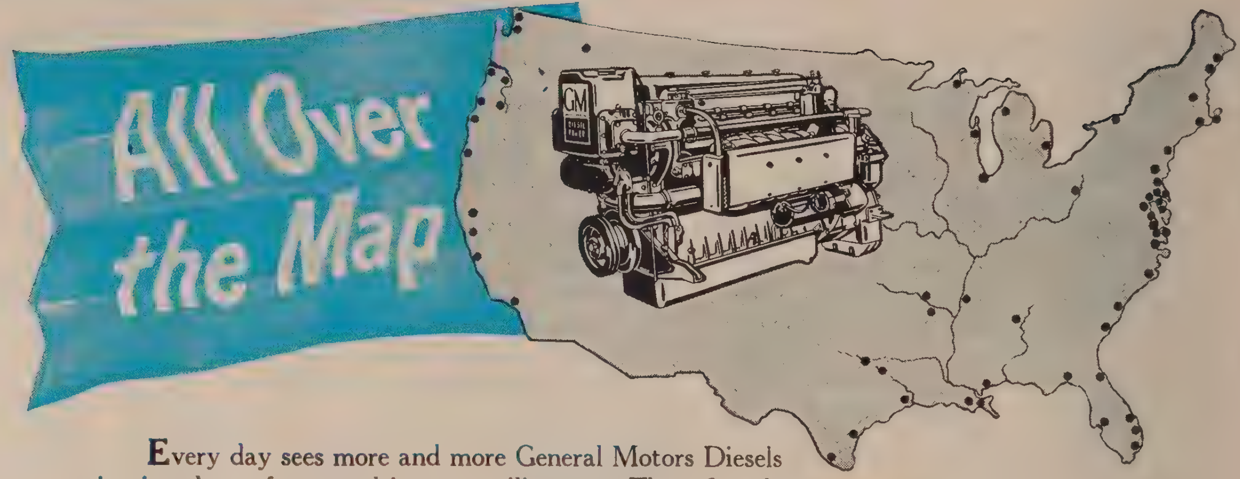
Year	Number Plants	Scotch Cure			Bloater Stock Barrels	Grand Total All Styles Full Barrels
		Barrels	Half Barrels	Total (Full Bbl. Basis)		
1910	......	......	......	......	1,195	**1,195**
1911	......	......	......	......	4,651	**4,651**
1912	......	......	......	......	6,008	**6,008**
1913	......	......	......	......	3,462	**3,462**
1914	......	......	......	......	8,196	**8,196**
1915	27	......	......	......	8,691	**8,691**
1916	28	......	......	......	18,296	**18,296**
1917	27	11,771*	......	**11,771**	11,786	**23,557**
1918	58	57,929*	......	**57,929**	47,465	**105,394**
1919	27	34,267*	......	**34,267**	8,294	**42,859**
1920	14	25,402	21,487	**36,145**	294	**36,439**
1921	18	40,393	48,415	**24,207**	568	**65,168**
1922	36	96,753	95,591	**144,548**	777	**145,325**
1923	32	41,605	75,278	**79,244**	2,222	**81,466**
1924	49	44,091	66,120	**77,151**	......	**77,151**
1925	64	79,255	116,767	**137,639**	1,518	**139,157**
1926	80	38,931	48,436	**63,149**	1,158	**64,307**
1927	52	30,523	53,538	**57,292**	260	**57,552**
1928	90	33,634	64,576	**65,922**	2,700	**68,622**
1929	30	14,955	22,962	**26,436**	829	**27,265**
1930	39	19,901	22,442	**30,132**	1,274	**31,406**
1931	29	16,533	30,222	**31,644**	1,057	**32,701**
1932	29	25,524	51,402	**51,225**	2,980	**54,205**
1933	40	17,406	66,588	**50,700**	3,156	**53,856**
1934	27	16,542	28,420	**30,752**	3,372	**34,124**
1935	41	31,054	57,329	**59,718**	5,870	**65,588**
1936	29	20,420	50,641	**45,740**	402	**46,142**
1937	8	2,913	11,001	**8,413**	52	**8,465**
1938	9	5,786	6,317	**8,945**	1,746	**10,691**
1939	10	7,773	8,202	**11,874**	2,458	**14,332**
1940	23	8,850	18,135	**17,918**	966	**18,884**
1941	7	2,848	9,975	**7,836**	1,058	**8,894**
1942	4	658	‡2,224	**1,370**	......	**1,370**
1943	5	1,623	5,779	**4,512**	......	**4,512**
1944	4	1,222	**5,873	**4,159**	......	**4,159**
1945	5	2,470	9,578	**7,259**	......	**7,259**
1946	7	1,327	13,994	**8,324**	......	**8,324**
1947	5	1,341	13,391	**8,037**	† 314	**8,351**
1948	2	163	3,131	**1,728**	......	**1,728**

* Half-barrels not segregated. ** Includes 227 quarter-barrels. † Packed in half tierces.

1948 — BRITISH COLUMBIA HERRING PRODUCTION — 1948

Week or Period Ending	Fish Landed Tons	Canned Herring				Fresh and Bait Tons	Herring Meal Tons	Herring Oil (Imperial) Gallons
		1-Lb. Talls Cases	1-Lb. Ovals Cases	½-Lb. Ovals Cases	Total Full Cases			
January 10, 1948	16,924.67	24,588	55,666	1,096	81,350	138.00	1,875.87	122,971
January 17, 1948	9,888.79	27,902	83,633	2,920	114,455	331.75	1,698.29	109,957
January 24, 1948	7,714.60	4,415	18,234	452	22,101	47.31	676.06	62,448
January 31, 1948	13,896.31	13,986	21,940	821	36,747	568.00	1,758.75	84,257
February 7, 1948	15,808.82	1,363	33,652	7,341	42,356	273.50	2,663.20	123,934
February 14, 1948	8,914.33	1,638	451	5,049	7,138	180.50	2,101.10	175,180
February 21, 1948	14,767.49	5,236	1,474	4,150	10,860	50.50	1,984.60	72,317
Total Spring Season	**87,915.01**	**79,128**	**215,050**	**21,829**	**315,007**	**1,589.56**	**12,757.87**	**751,064**
October 23, 1948	9,255.00	......	......	......	3,000*	......	903.05	114,033
October 30, 1948	14,753.30	......	......	......	6,282*	26.0	3,032.15	423,774
November 6, 1948	20,372.44	......	......	......	11,986*	57.0	2,396.32	351,101
November 13, 1948	9,524.11	......	......	......	4,906*	68.0	2,135.60	157,430
November 20, 1948	2,277.29	......	......	......	4,030*	......	594.95	103,648
November 27, 1948	17,999.24	......	......	......	18,292*	171.75	2,919.05	275,248
December 4, 1948	5,386.75	......	......	......	6,876*	17.75	833.60	111,196
December 11, 1948	20,814.33	......	......	......	27,330*	105.25	3,197.55	290,200
December 18, 1948	12,322.72	......	......	......	7,500*	109.00	2,231.80	192,878
Total Fall Season	**112,705.18**	......	......	......	**90,202***	**554.75**	**18,244.07**	**2,019,508**
Grand Total	**200,620.19**	**79,128**	**215,050**	**21,829**	**405,209**	**2,144.31**	**31,001.94**	**2,770,572**
1947 Spring Season	42,006.34	250,595	176,203	4,125	430,923	3,183.05	4,109.20	200,581
1947 Fall Season	77,412.98	219,635	698,786	10,748	929,719	1,045.25	7,212.09	1,092,057
1947 Grand Total	**119,419.32**	**470,230**	**874,989**	**14,873**	**1,360,642**	**4,228.30**	**11,321.29**	**1,292,638**
1946 Spring Season	29,376.48	71,537	61,290	21,975	154,802	3,304.71	3,437.30	251,838
1946 Fall Season	67,691.61	80,281	886,889	40,802½	1,007,972½	5,718.73	4,364.25	644,777
1946 Grand Total	**97,068.09**	**151,818**	**948,179**	**62,777½**	**1,162,774½**	**9,023.44**	**7,801.55**	**896,615**
1945 Spring Season	61,906.03	80,001	127,202	55,418	262,621	3,558.05	8,350.96	490,214
1945 Fall Season	70,193.36	67,296	1,056,310	30,290	1,153,896	1,131.10	4,420.45	610,643
1945 Grand Total	**132,099.39**	**147,297**	**1,183,512**	**85,708**	**1,416,517**	**4,689.15**	**12,771.41**	**1,100,857**

* Sizes of cans not designated.



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Detroit Diesel Engine Division of General Motors proudly holds one of the first manufacturers' memberships in the National Fisheries Institute Inc.

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Here, for your convenience, is a list of GM Diesel Distributors, Dealers and Service Dealers in strategic locations on the water fronts of the United States.

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DIST. OF COLUMBIA—Washington
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FLORIDA—Ft. Pierce
EQUIPMENT SALES & SERVICE CO.

FLORIDA—Jacksonville, Miami
GENERAL MOTORS CORPORATION
FLORIDA DIESEL ENGINE SALES

FLORIDA—W. Palm Beach
MARINE ENGINE & EQUIP. CO.

GEORGIA—Brunswick
COBURN DIESEL SERVICE

GEORGIA—Savannah
MORGANS, INC.

MAINE—Boothbay Harbor
FRANK L. SAMPLE JR., INC.

MAINE—Portland
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JOHNSON & TOWERS BALT., INC.

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MARYLAND—Oxford
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BUCKSPORT ESSO MARINE

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STEWART & STEVENSON SERVICES, INC.

TEXAS—Port Arthur
SABINE PROPELLER & MARINE SERVICE CO., INC.

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DIESEL BRAWN WITHOUT THE BULK

HERRING

Exceeding 200,000 tons, the British Columbia herring catch of 1948 broke all records for that fishery, and was probably the largest yield of any Pacific fishery in that year.

Fishing was phenomenal during both the spring and fall seasons.

Some of the major fisheries of the Pacific—notably that for salmon in certain districts in Alaska, and for sardines in California—show signs of having suffered severely from the heavy drain of war's demands.

British Columbia's herring fishery, however, in 1948 produced by far the heaviest return of any year in its history, and that despite heavy harvest through the years of war.

Fishing was exceptionally heavy during both the fall and spring seasons, with as many as 20,000 tons coming to the plants in several individual weeks.

Catches of more than 1,000 tons in a single set of a net were reported.

Practically all of the fish taken were used for reduction during the fall season, when elimination of the United Kingdom outlet virtually closed the market for canned herring. The fall product of canned herring was held to 90,000 cases, less than 10% of what has been packed during that part of the season in the past several years.

Alaska Cured Herring

Alaska herring curing fell to almost negligible proportions in 1948, only two packers salting any fish at all, and their production of 1,728 bbls.—largely packed in halves—was with the single exception of 1942 the smallest annual pack in the history of the Alaska herring fishery.

Adverse market conditions, plus high costs of operation, plus the uncertainties of Alaska shipping plagued by strikes, combined to curtail curing to the vanishing point.

Of the production shown in the accompanying table, the Port Vita plant of Oceanic Fisheries Co. accounted for 163 full barrels and 3,035 halves, while the Zachar Bay plant of Chatham Strait Fish Co. cured 96 half bbls.

It is to be noted that the little production recorded was all in the Kodiak Island district. The Prince William Sound fishing was confined entirely to the early part of the season, while in Southeast Alaska fishing was very poor and the fish taken so small that curing was not encouraged.

British Columbia Output of Herring Products, Canned Pilchards, etc., 1915 to 1948

(By Calendar Years)

Year	Herring								Pilchards, Canned* Cases (48-lbs.	Year
	Fish Landed "Green" Cwts.	Canned Cases (48-lbs.)	Dry Salted, Cwts.	Cured and Smoked, Cwts.	Pickled Bbls.	Fresh and Frozen (Incl. Bait), Cwts.	Oil, Imperial Gallons	Herring Meal, Tons		
1915..	467,452	†11,468	183,704	5,791	8,890	108,302	...	...	...	1915
1916..	496,030	35,487	172,988	4,014	7,590	145,844	...	...	...	...1916
1917..	487,241	46,650	161,865	6,263	7,293	144,743	...	...	1,090	...1917
1918..	636,921	61,657	172,610	19,564	...	122,128	...	...	63,963	...1918
1919..	567,868	64,002	255,058	9,979	6,796	61,199	...	...	63,065	...1919
1920..	1,001,357	19,986	512,168	8,197	1,431	97,413	...	...	91,929	...1920
1921..	944,866	4,149	479,971	8,133	2,417	102,487	...	...	16,091	...1921
1922..	1,002,519	2,114	522,768	6,946	755	96,164	...	...	19,186	...1922
1923..	1,035,823	3,099	744,036	6,728	1,970	84,309	...	...	17,195	...1923
1924..	1,157,625	...	853,543	9,193	146	73,833	...	...	14,898	...1924
1925..	1,437,875	391	1,083,174	5,622	52	71,169	...	...	37,182	...1925
1926..	1,301,269	433	938,647	6,199	80	71,788	13,700	310	26,731	...1926
1927**	1,724,246	...	1,048,190	15,005	138	81,222	170,450	1,838	58,501	...1927
1928..	1,535,118	...	1,072,188	6,187	65	114,635	68,411	831	65,097	...1928
1929..	1,315,667	...	923,848	6,060	187	126,717	37,264	437	98,821	...1929
1930..	1,221,962	...	805,973	4,713	46	86,642	60,373	1,774	55,166	...1930
1931..	1,480,314	43	788,227	2,315	142	71,566	110,810	3,094	17,336	...1931
1932..	1,003,204	...	269,420	296	50	57,322	186,173	6,195	4,622	...1932
1933..	1,077,373	...	513,024	2,445	100	33,701	316,213	4,078	2,946	...1933
1934..	820,362	2,295	414,626	3,213	132	53,448	104,710	2,570	35,437	...1934
1935..	1,008,507	...	302,710	4,386	117	72,848	306,767	5,262	27,184	...1935
1936..	1,620,625	51,695	383,337	4,335	28	44,362	782,499	10,085	35,007	...1936
1937..	1,921,795	27,365	203,401	3,601	68	82,181	1,283,658	14,427	40,975	...1937
1938..	1,328,913	23,376	149,700	52	20	73,489	929,158	9,624	69,473	...1938
1939..	2,164,812	222,658	160,315	13,733	1,591	56,536	1,366,607	16,482	7,300	...1939
1940..	3,395,013	727,292	104,812	15,816	1,737	79,878	1,700,819	24,264	59,166	...1940
1941..	1,688.515	1,013,329	3,850	4,643	834	96.832	584,157	8,757	58,038	...1941
1942..	2,040,840	1,253,978	...	...	2,440	43,600	653,710	10,896	46,451	...1942
1943..	1,592,249	1,221,015	...	...	...	44,870	678,464	10,114.66	101,356	...1943
1944..	1,799,600	1,211,866	...	...	2,936	79,535	857,164	8,507.14	92,882	...1944
1945..	2,641,988	1,416,517	...	...	...	4,689	1,100,857	12,771.41	75,724	...1945
1946..	1,941,362	1,162,774	...	...	...	180,469	896,615	7.801.55	...	..1946
1947..	2,380,206	1,360,642	...	...	...	84,566	1,292,638	11,321.29	...	...1947
1948..	4,012,444	405,209	...	...	...	42,886	2,770,572	31,001.94	...	...1948

* Other pilchard products, and tonnage of pilchards landed, are shown in tabulations in the Fish Oil and Meal Department of this issue.
** In 1927 there were gathered 1,000 cwt. herring scales.

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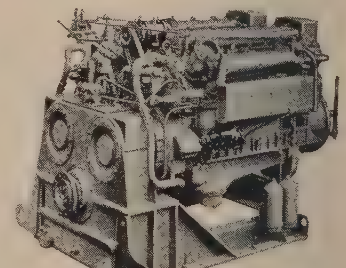

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Washington Eulachon Smelt Catches

Year	Cowlitz River Pounds	Grays River Pounds	Lewis River Pounds	Columbia River Pounds	Total Pounds
1939	1,012,730	30,300	1,342,675	184,348	**2,570,053**
1940	730,170	60,450	1,341,250	384,650	**2,516,520**
1941	1,794,233	......	376,975	42,919	**2,214,127**
1942	1,570,915	51,750	......	54,325	**1,676,990**
1943	2,973,340	3,675	270,375	124,500	**3,371,790**
1944	1,125,674	10,900	504,000	249,522	****1,942,771**
1945	2,048,438	42,753	1,552,770	215,040	*** 3,891,463**
1946	2,674,040	300	......	51,099	**2,725,439**
1947	1,192,663	......	......	128,280	**1,320,943**
1948	2,197,810	......	547,590	296,240	**3,041,640**

* Includes 32,462 lbs. caught in the Kalama River.

** Includes 44,300 pounds from Kalama River; 7,675 pounds from Naselle River; and 700 pounds from Nemah River.

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PIONEER SAND AND GRAVEL CO.
901 FAIRVIEW N. • SEATTLE 11 • MA 2900

1948 – CALIFORNIA SHELLFISH FREEZING – 1948

Species	Frozen Dec. 1947	Frozen Jan. 1948	Frozen February	Frozen March	Frozen April	Frozen May	Frozen June	Frozen July	Frozen August	Frozen September	Frozen October	**11 Month Total Frozen**
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Shellfish:												
Clams	......	240	......	10,604	140	......	......	......	......	......	250	**11,234**
Crab (including crabmeat)	710	1,205	2,995	5,949	6,933	11,412	1,520	1,740	......	......	......	**32,464**
Lobster tails (spiny)	57,589	81,113	55,100	54,712	2,344	12,028	400	......	35	62	72	**263,455**
Oysters	......	......	......	3,280	1,054	1,064	......	......	39	......	7,248	**12,685**
Shrimps (including shrimpmeat)	13,868	82,865	141,678	202,631	32,594	6,410	220	1,100	1,460	8,202	84,319	**575,347**
Squid	3,450	......	36,210	31,500	10,100	120,790	......	117	32,083	......	......	**234,250**
Unclassified Shellfish	......	9,517	3,735	2,473	1,517	......	2,571	2,679	1,255	......	......	**23,747**
Total Shellfish	**75,617**	**174,940**	**239,718**	**311,149**	**54,682**	**151,704**	**4,711**	**5,636**	**34,872**	**8,264**	**91,889**	**1,153,182**

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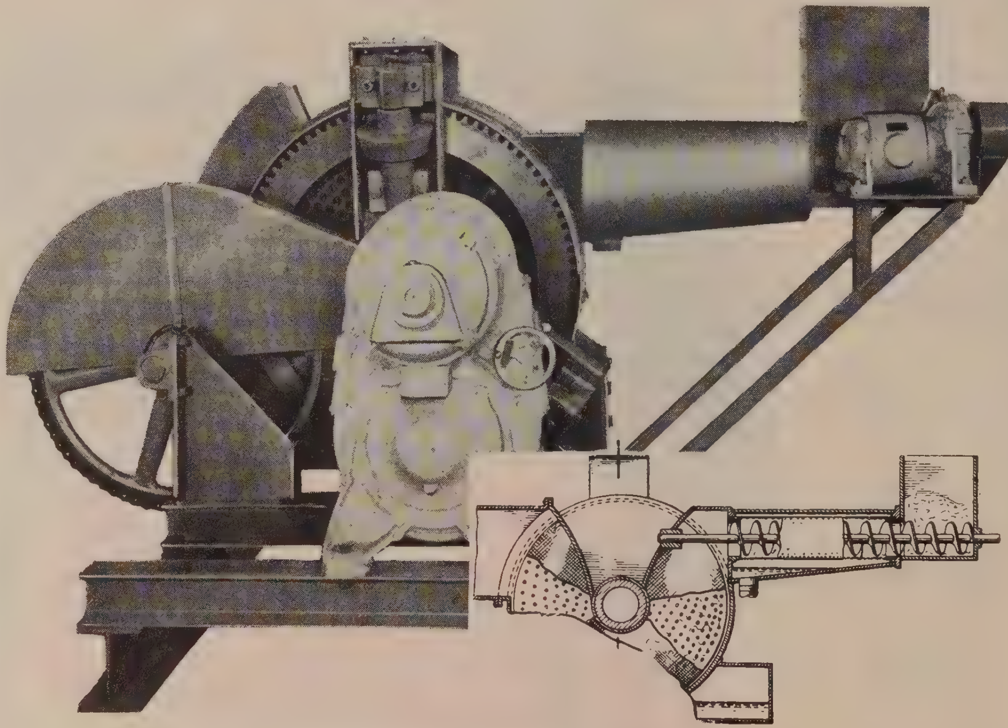
Continuous Type

MOST Efficient method of extracting bulk water from semi-solids for more profit in by-products and fish meal dehydrating operations.



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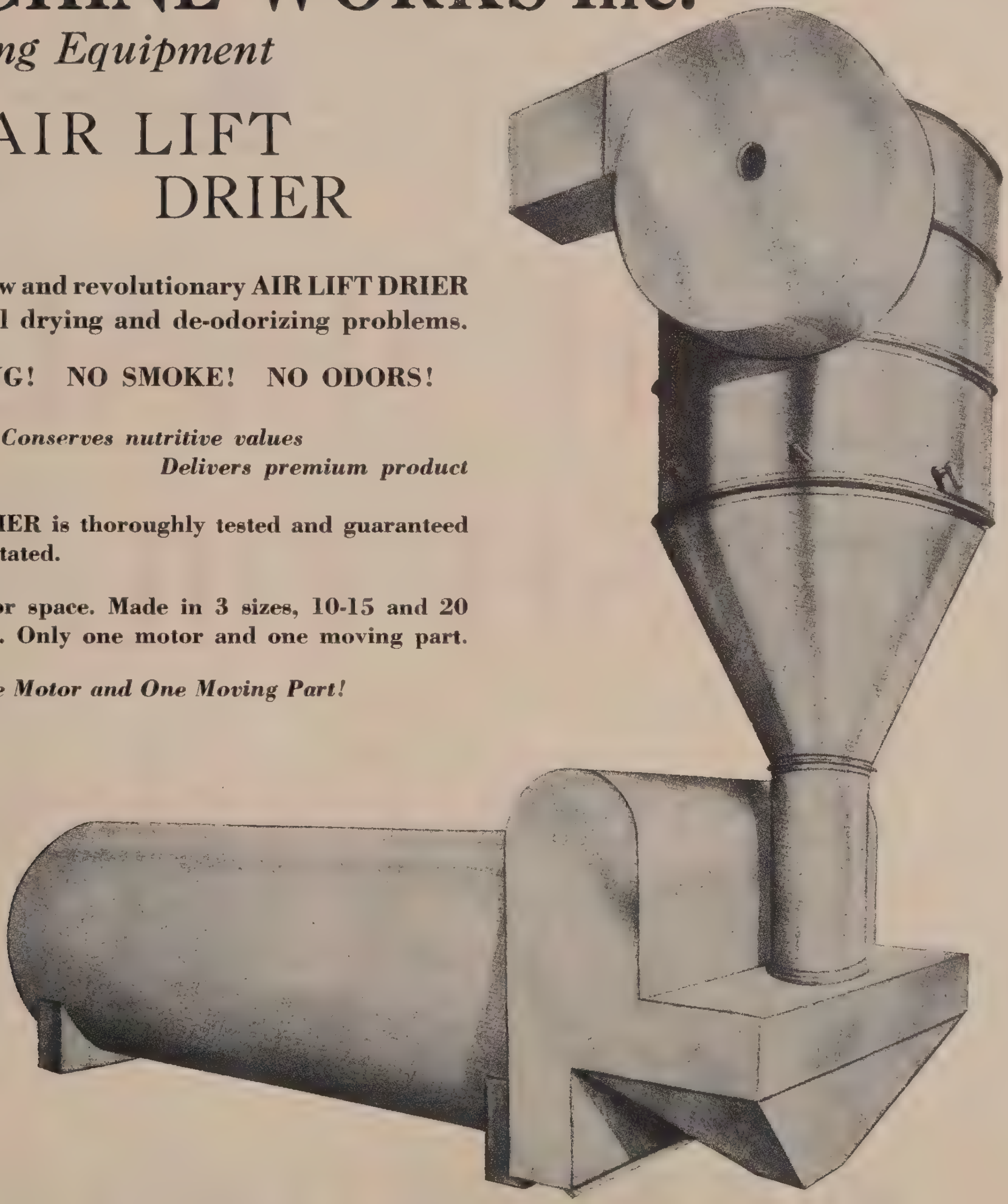

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OIL & MEAL

By-products branch of the Pacific fishery industries was marked by sharp ups and downs in 1948, with aggregate production somewhat better than in 1947, and roughly equal to 1946.

Output of fish meal was relatively higher than fish oil, due to the ascendancy of the British Columbia herring fishery and the all-time record catch of tuna in California.

Improved catch of sardines in California was not reflected in the by-products output to the degree which might be expected, as price of fish and condition of by-products markets put a record percentage of the catch into cans.

Phenomenal production of herring in British Columbia was perhaps the outstanding feature of the Pacific Coast fish by-products business in 1948. Moreover, expected post-war collapse of the market for British Columbia canned herring made almost the entire catch available for the manufacture of fish meal and oil.

As might be expected, the British Columbia herring industry produced meal more notably than oil, and the province's 32,453 tons of fish meal pressed in 1948 is believed to have been the largest in the history of fish reduction in that region. This statement does not overlook the years when the Vancouver Island pilchard industry was active.

British Columbia Herring Catch Exceeds Calif. Sardine Tonnage

The Canadian Pacific herring catch of 1948, aggregating 200,620 tons, ranks ahead of the California sardine take, normally considered the foremost Pacific fishery in point of volume.

Fishing in British Columbia waters was extremely heavy in both spring and fall seasons, with 87,915 tons being taken in the first seven weeks of the year; while in the fall period the take was 112,705 tons.

Alaska Herring Products Yield Suffers in Southeastern Area

The severe shrinkage of production in the Southeastern area of Alaska—amounting to more than 1 million gallons of oil less than the output of the year previous—pulled the territory's yield narrowly below the 1947 level, despite the return of activity on Prince William Sound.

The Kodiak Island area had a favorable yield, despite the failure of the quota extension to be announced on time to be available to the industry.

1948 — PACIFIC COAST FISH OIL AND MEAL — 1948

Regions and Districts	Number Active Plants	Fish Meal, Tons	Herring Oil, Gallons	Sardine or Pilchard Oil, Gallons	Other Fish Oil, Gallons	Total Fish Oil, Gallons	Regions and Districts
Alaska	**19**	**12,683**	**3,445,181**		**56,450**	**3,501,631**	**Alaska**
Southeast Alaska	8	2,631	597,814		26,000	623,814	Southeast Alaska
Prince William Sound	4	2,974	912,939		5,500	919,437	Prince William Sound
Kodiak Island Area*	7	7,078	1,934,428		24,950	1,959,378	Kodiak Island Area
British Columbia	**16**	**32,453**	**3,324,686**		**248,675**	**3,573,361**	**British Columbia**
Washington	**9**	**3,349**			**211,930**	**211,930**	**Washington**
Puget Sound	8	2,699			203,430	203,430	Puget Sound
Grays Harbor	1	650			8,500	8,500	Grays Harbor
Oregon	**4**	**1,228**		**114,928**		**114,928**	**Oregon**
California		**40,906**		**2,130,995**	**654,393**	**2,785,388**	**California**
San Francisco Bay		1,440		16,049	73,675	89,724	San Francisco Bay
Monterey		5,645		784,873	②	784,873	Monterey
San Pedro Area	③	22,992		1,330,073	299,228	1,629,301	San Pedro Area
San Diego		10,829		①	281,490	281,490	San Diego
GRAND TOTALS		**90,619**	**6,769,867**	**2,245,923**	**1,171,448**	**10,187,238**	**GRAND TOTALS**

*Includes one plant on Cook Inlet. ①Included with San Pedro Area. ②Included with San Francisco Bay. ③Data not available.

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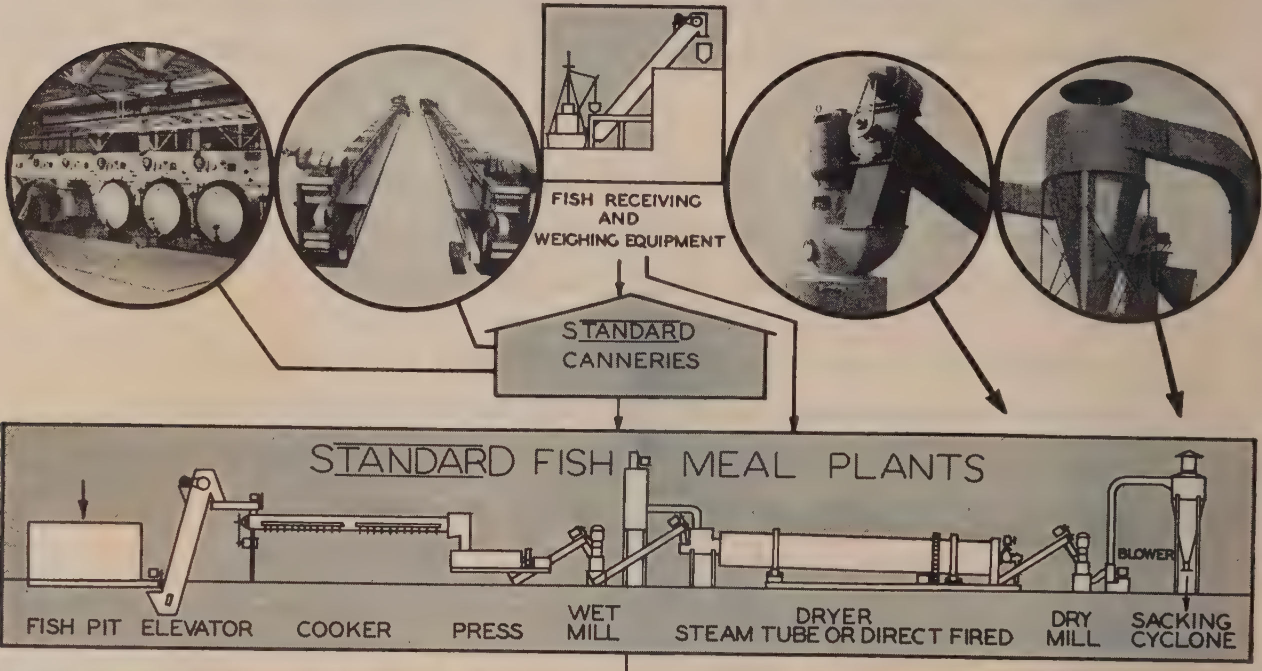
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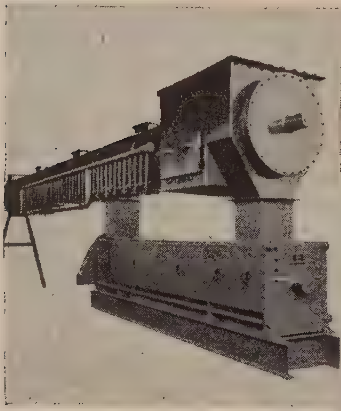

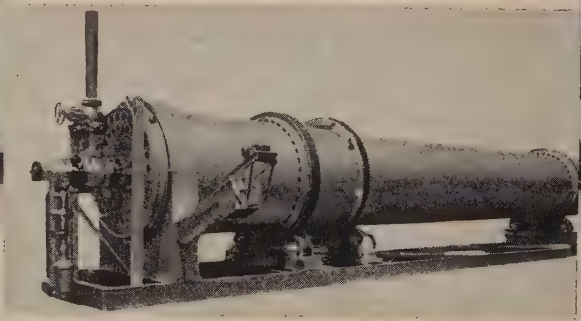

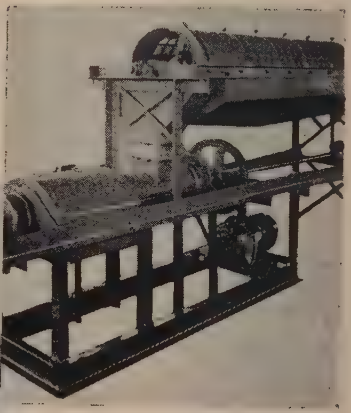

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ALASKA FISH BY-PRODUCTS

(Not Including Vitamin Oils)

Year	Southeast Alaska			Prince William Sound			Kodiak Island Area			All Alaska		
	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons
1948	8	623,814	2,631	4	919,437	2,974	†7	1,959,378	7,078	19	3,501,631	12,483
1947	8	1,762,648	6,727	......	......	......	6	2,017,027	7,505	14	3,779,675	14,232
1946	5	1,359,409	6,860	2	453,962	2,066	4	1,731,536	6,942	11	3,544,907	15,868
1945	5	1,110,973	4,507	2	295,951	1,541	4	1,328,249	5,140	11	2,835,173	11,188
1944*	......	......	......	......	......	......	......	......	......	8	2,355,010	8,777
1943*	......	......	......	......	......	......	......	......	......	8	1,644,142	7,280
1942	1	60,000	700	1	62,518	270	2	770,000	2,570	4	892,518	3,540
1941	1	80,500	555	6	1,221,242	5,408	4	1,592,506	5,777	11	2,894,248	11,740
1940	1	40,000	450	6	1,290,857	4,720	3	808,822	2,973	11	2,139,679	8,143
1939	5	882,317	4,042	7	2,227,087	7,838	6	1,729,127	5,617	18	4,846,631	17,497
1938	6	951,109	4,489	6	2,403,797	8,847	4	1,224,273	3,637	16	4,593,579	16,973
1937	9	2,024,315	8,725	6	2,175,423	7,102	5	1,388,300	3,809	20	5,538,038	19,636
1936	6	1,421,470	6,487	6	1,426,323	5,546	5	975,344	3,018	17	3,823,137	15,051
1935*	......	......	......	......	......	......	......	......	......	19	3,853,243	15,818

*Data for separate areas of Alaska not available.

†Includes one on Cook Inlet.

California Sardine Products Make Mild Recovery in 1948

California's great sardine industry showed signs of comeback in 1948, although it must be acknowledged that the catch was still scant.

The gain in tonnage caught was not sharply reflected in oil and meal manufactured, due to the fact that the price of fish made it imperative to can all of the sardines possible, as they could not be reduced at the market prices existing for oil and meal.

This kept reduction confined almost entirely to sardine cannery offal, which naturally resulted in scant overall output, particularly in the case of oil.

California Miscellaneous Products Attain Surprising Volume in 1948

The astonishing volume of the 1948 tuna catch, plus a substantial mackerel season, combined to pro-

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"I continuously extract oil from meal, and I separate oil from press liquor. I also dehydrate and polish the oil. These jobs call for different types and sizes of machines, so that I can be put to work in various ways.

"The De Laval "Nozzle-Matic" Separator, for example, makes possible the continuous recovery of fish oil from large quantities of press liquor, with simultaneous removal and discharge of solids. The "Nozzle-Matic" Separators not only increase yield, but also enable oil of higher vitamin content to be produced. Moreover, such centrifugally-recovered oils have less acidity.

"In another type of machine, I dehydrate fish oil after it is water-washed. Such De Laval Separators are available in several sizes to accommodate every plant's needs.

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DeLAVAL FISH OIL SEPARATORS

1948 — CALIFORNIA SARDINE REDUCTION — 1948

Months	San Francisco Area			Monterey Area			San Pedro and San Diego			All Areas Combined		
	Tons of Fish	Gallons of Oil	Tons of Meal	Tons of Fish	Gallons of Oil	Tons of Meal	Tons of Fish	Gallons of Oil	Tons of Meal	Tons of Fish	Gallons of Oil	Tons of Meal
January	40	....	2	582	3,024	51	1,598	4,489	130	2,220	7,513	183
February	50	....	....	1,267	4,106	125	8,543	9,836	793	9,860	13,942	918
March	....	....	....	139	23	16	....	....	....	139	23	16
April	....	....	....	32	428	3	1,316	854	63	1,348	1,282	66
May	....	....	....	1,224	7,933	96	85	220	7	1,309	8,153	103
June	169	757	9	5,407	54,220	448	35	....	....	5,611	54,977	457
July	101	551	5	4,791	56,963	476	207	....	....	5,099	57,514	481
Spring Totals	**360**	**1,308**	**16**	**13,442**	**126,697**	**1,215**	**11,784**	**15,399**	**993**	**25,586**	**143,404**	**2,224**
August	12	120	1	6,303	102,512	590	4,699	43,938	235	11,014	146,570	826
September	202	5,000	21	18,120	326,872	1,944	3,188	56,701	352	21,510	388,573	2,317
October	726	4,760	44	4,415	71,666	699	38,845	432,876	3,219	43,986	509,302	3,962
November	273	3,573	26	4,035	54,518	411	28,155	328,139	3,362	32,463	386,230	3,799
December	144	1,288	13	6,522	102,608	786	35,097	453,020	4,434	41,763	556,916	5,233
Fall Totals	**1,357**	**14,741**	**105**	**39,395**	**658,176**	**4,430**	**109,984**	**1,314,674**	**11,602**	**150,736**	**1,987,591**	**16,137**
GRAND TOTALS	**1,717**	**16,049**	**121**	**52,837**	**784,873**	**5,645**	**121,768**	**1,330,073**	**12,595**	**176,322**	**2,130,995**	**18,361**

duce an exceptionally heavy yield of these oils and meals.

This fact, together with the limited volume of sardine products, gave rise to some extraordinary conditions.

For example, "miscellaneous" fish meal produced in California actually exceeded sardine meal in volume—22,545 tons to 18,361 tons.

Pacific Herring Products Run Far Ahead of Pilchard Output

A fair herring season in Alaska, coupled with a phenomenal one in British Columbia—

A poor sardine season in California, with a complete failure in British Columbia, and scant production in the Pacific Northwest,—

Allowed herring products in 1948 to run far ahead of the usually-dominant pilchard category.

For example, herring oil aggregated 6,769,867 gals., while sardine oil reached only 2,245,923 gals. "Other" fish oil, by the way, amounted to 1,171,448 gals., slightly more than half as much as the sardine oil volume.

Whaling out of Humboldt Bay, Calif., in 1948 increased in activity, and was being carried on through the winter months of 1948-49 under the international rule which permits the taking of sperm whales at that season. The station at Field Landing, Calif., was purchased by the owners of its killer vessels and continued through the year as the sole American shore plant active in the whaling industry.

Calif. Sardine Products

As 1948 ended California's sardine reductionists were faced with the distinct possibility that there would be no reduction permits granted at all for the 1949-50 sardine season.

There was also a strong indication that a bag limit might be placed on the entire Pacific Coast sardine catch.

One bright spot on the horizon was that the 1948-49 catch was better than the season previous, and as the season closed bigger fish were appearing in Monterey and southern California.

However, due to the high price of fish, and the fact that canners were canning all sardines, few, if any, straight reduction plants operated in California during the 1948-49 season.

At a meeting of the Fish & Game Commission in December, 1948, Richard S. Croker, chief, Bureau of Marine Fisheries, stated that the sardine population is at a dangerously low level, and it was the recommendation of the bureau that no sardine reduction permits be granted for the 1949-50 season. No action was taken on the recommendation at that time.

It was agreed by all hands that 1947-48 was California's worst sardine season on record. In San

Pacific Coast Fish Oil — 1916-1948

Year—	Alaska (Gallons)	Washington (Gallons)	Oregon (Gallons)	California (Gallons)	British Columbia (Gallons)	Total (Gallons)
1916	232,376	116,282	20,000	26,063	....	394,721
1917	231,142	205,511	25,000	176.293	49,784	686,730
1918	147,716	98,711	35,200	346,724	64,060	692,411
1919	170,340	90,921	25,000	514.262	65,945	866,468
1920	720,118	21,850	23,175	611,585	66,802	1,443,530
1921	99,948	170,008	48,000	336,738	53,640	708,334
1922	454,938	157,555	14,000	547,050	90,553	1,264,096
1923	915,143	135,145	24,000	951,888	196,381	2,242,557
1924	1,193,705	79,028	42,000	2,350,722	289,651	3,955,106
1925	2,391,832	97,890	47,400	3,150,041	1,020,607	6,707,770
1926	3,018.675	78,352	58,000	2,123,928	2.555,485	7,834,440
1927	2,067,041	81,801	65,000	2,618,490	3,863,347	8,695,679
1928	2,585,990	79.347	54,000	3,749,302	4,877,059	11,336,698
1929	3,415,154	131,059	62.000	6,548,126	4,066,584	14,222,923
1930	3,601.305	121,602	53,600	5,842,763	4,767,120	14,386,390
1931	2,207.686	128,769	36,000	3,924,692	3,485.287	9,782,434
1932	2,632,154	79,219	33,000	5,125,399	1,857.065	9,726,837
1933	3,195,294	111,098	33,500	10,708,448	935,582	14,983,922
1934	3,741,604	116,967	38,000	18,910,687	2,492,230	25,299,488
1935	3,853,243	110,960	1,144,374	20,695,423	2.644,214	28,448,214
1936	3,823.137	304,975	552.497	24,511,950	2,802,678	31,995.237
1937	5,588,038	942,548	689,159	14,823,508	3,942.576	25,985,829
1938	4,587,513	1,231,144	718,830	16,065.029	4,023,798	26,626,314
1939	4,837,298	830,480	833.300	18,980.527	2.068.779	27,550,384
1940	2,142,674	180,830	114,717	13,214,990	3,388,442	19,041.653
1941	2,894,248	552,491	398,235	17,677,198	3,304.657	24,290.751
1942	892,518	144,691	33,214	12,686,640	2,255,908	16,012.971
1943	1,644,142	586,102	58,000	14,016.179	3,738,818	20,043,241
1944	2,355,010	65,460	50.000	18,271,859	3,548,422	24,290.751
1945	2,835,173	221,218	26,000	12.062,111	2,875,323	18,019.825
1946	3,544,907	341,423	133,727	4.902.625	1,431,600	10,354,282
1947	3,779.675	200,801	246.184	2,633,604	1.778.327	8,415,449
1948	3,501,631	211,930	114,928	2,785,388	3,573,361	10,187,238

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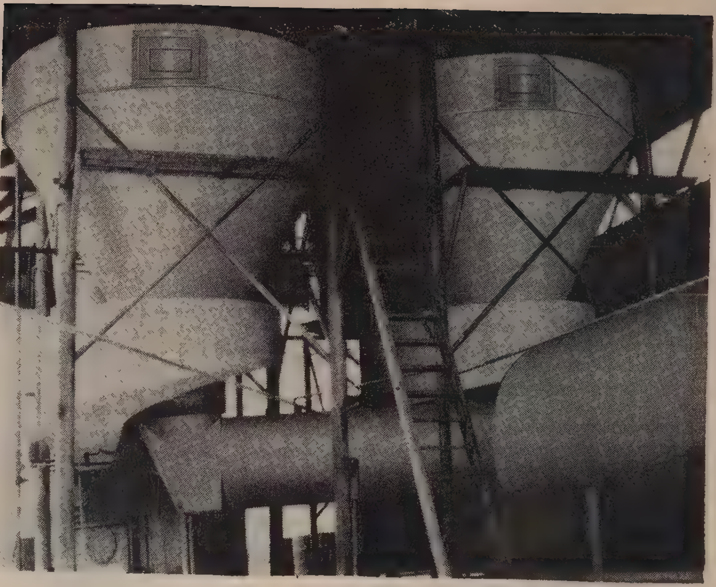

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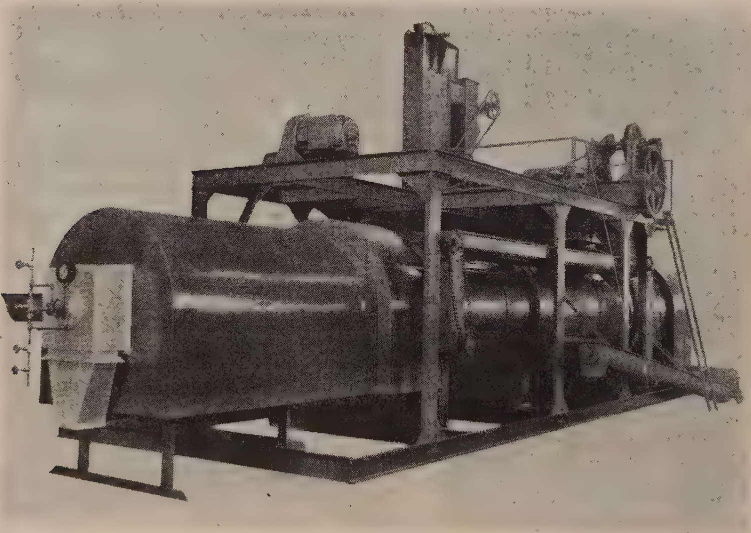

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California Fish Oil and Meal Production — 1930 to 1948

Fish Oil, Gallons						Fish Meal, Tons				
San Francisco District	Monterey District	San Pedro District	San Diego District	**Total Gallons**	Year	San Francisco District	Monterey District	San Pedro District	San Diego District	**Total Tons**
747,931	3,769,950	1,282,893	41,989	**5,842,763**	1930	3,375	13,752	13,653	4,859	**35,639**
726,514	2,372,303	818,364	7,511	**3,924,692**	1931	3,597	8,416	7,600	2,877	**22,440**
426,831	3,378,929	1,293,961	25,678	**5,125,399**	1932	2,435	12,560	9,846	2,659	**27,500**
933,696	4,209,366	2,585,784	58,948	**7,787,794**	1933	4,941	18,869	18,249	4,310	**46,369**
2,490,156	9,322,080	4,221,447	94,525	**16,128,208**	1934	11,138	34,492	27,236	4,858	**77,724**
3,106,785	6,734,305	3,821,566	261,482	**13,924,138**	1935	12,994	27,966	31,163	6,572	**78,695**
5,626,422	6,756,541	2,834,887	260,059	**15,477,909**	1936	24,593	30,431	23,588	7,655	**86,267**
4,431,668	4,122,817	2,578,600	191,757	**11,324,842**	1937	22,916	21,118	29,184	8,300	**81,518**
7,032,792	4,753,160	2,126,661	130,606	**14,043,219**	1938	31,773	25,202	24,209	6,732	**87,916**
10,395,398	6,894,201	1,594,122	96,806	**18,980,527**	1939	43,369	33,238	21,858	6,704	**105,169**
4,831,500	5,745,120	2,509,291	129,079	**13,214,990**	1940	21,256	28,004	29,542	7,335	**86,137**
7,429,493	7,537,870	2,627,959	81,876	**17,677,198**	1941	32,773	38,875	25,832	5,332	**102,812**
4,183,492	5,219,441	3,146,680	137,027	**12,686,640**	1942	17,748	25,170	31,633	4,452	**79,003**
4,979,798	6,652,715	2,262,889	120,777	**14,016,179**	1943	19,682	37,416	24,753	4,300	**86,151**
5,722,966	8,509,678	3,903,785	133,356	**18,269,785**	1944	24,452	42,452	34,945	5,283	**107,132**
3,778,814	5,145,907	2,948,595	188,795	**12,062,111**	1945	16,177	26,105	29,822	6,549	**78,653**
72,089	922,103	3,641,810	266,623	**4,902,625**	1946	1,597	6,572	36,859	7,867	**52,895**
17,869	497,271	1,795,095	323,369	**2,633,604**	1947	837	4,453	22,555	9,220	**37,065**
89,724	784,873	1,629,301	281,490	**2,785,388**	1948	1,440	5,645	22,992	10,829	**40,906**

Note:—This table includes all fish oil except vitamin oils from livers, and includes oil from fish plant offal as well as from whole fish. Meal figures include solid residuum recovered from stickwater. The San Francisco district as reported covers all California north of Monterey Bay.

Francisco it never really got started —only 323 tons were landed there. Some 15,540 tons were landed in Monterey — hardly enough for a week's catch in a normal season. And in southern California the picture was the same with 93,811 tons landed as compared to 202,302 tons the season previous.

Conservation Proposals for 1948

At a meeting in May of the Fish & Game Commission the Sardine Advisory Committee brought in a number of recommendations which were adopted as rules by the Fish & Game Commission, and the commission allotted 100,000 tons of sardines for reduction purposes.

The recommendations of the Sardine Advisory Committee were as follows:

1. Legal size of sardines to be limited to a minimum of 8″ with 25% tolerance by weight.

2. The sardine season to be shortened voluntarily by one month's time. The northern season ending Jan. 15, and the southern season Feb. 1. No sardines to be taken for any purpose between Jan. 15 and April 15 in the north, and Feb. 1 and April 15 in the south.

3. Voluntarily limiting fishing to five days per week.

4. Initial allocation of 100,000 tons of sardines for reduction purposes, with an additional allotment if the

PACIFIC COAST SARDINE OR PILCHARD CATCH

(EACH SEASON INCLUDES JUNE THROUGH THE FOLLOWING MAY.) *

					CALIFORNIA							
Season	British Columbia	Washington	Oregon	**Total Pacific Northwest**	Floating Plants	San Francisco	Monterey	San Pedro	San Diego	**Total California**	**Grand Total**	Calif. Percent of Total
1916–17	....	....	....	....	....	....	7,710	17,380	2,440	**27,530**	**27,530**	100
1917–18	80	....	....	**80**	....	70	23,810	41,340	7,360	**72,580**	**72,660**	100
1918–19	3,640	....	....	**3,640**	....	450	35,750	32,530	6,810	**75,540**	**79,180**	95
1919–20	3,280	....	....	**3,280**	....	1,000	43,040	16,580	6,410	**67,030**	**70,310**	95
1920–21	4,400	....	....	**4,400**	....	230	24,960	11,740	1,520	**38,450**	**42,850**	90
1921–22	990	....	....	**990**	....	80	16,290	19,220	910	**36,500**	**37,490**	97
1922–23	1,020	....	....	**1,020**	....	110	29,210	33,170	2,620	**65,110**	**66,130**	98
1923–24	970	....	....	**970**	....	190	45,920	35,040	2,780	**83,930**	**84,900**	99
1924–25	1,370	....	....	**1,370**	....	560	67,310	96,330	8,820	**173,020**	**174,390**	99
1925–26	15,950	....	....	**15,950**	....	560	69,010	61,990	5,710	**137,270**	**153,220**	90
1926–27	48,500	....	....	**48,500**	....	3,520	81,860	64,720	2,110	**152,210**	**200,710**	76
1927–28	68,430	....	....	**68,430**	....	16,690	98,020	67,900	4,650	**187,260**	**255,690**	73
1928–29	80,510	....	....	**80,510**	....	13,520	120,294	119,250	1,420	**254,484**	**334,994**	76
1929–30	86,340	....	....	**86,340**	....	21,960	160.050	140,540	2,620	**325,170**	**411,510**	79
1930–31	75,070	....	....	**75,070**	10,960	25,970	109,620	38,490	80	**185,120**	**260,190**	71
1931–32	73,600	....	....	**73,600**	31,040	21,610	69,080	42,660	260	**164,650**	**238,250**	69
1932–33	44,350	....	....	**44,350**	58,790	18,630	89,600	83,600	60	**250,680**	**295,030**	85
1933–34	4,050	....	....	**4,050**	67,820	36,340	152,480	125,050	1,750	**383,440**	**387,490**	99
1934–35	43,000	....	....	**43,000**	112,040	69,000	230,860	178,820	4,860	**595,580**	**638,580**	93
1935–36	45,320	....	26,230	**71,550**	150,830	76,150	184,470	138,400	10,650	**560,500**	**632,050**	89
1936–37	44,450	6,550	14,200	**65,200**	235,610	141,100	206,710	138,110	4,590	**726,120**	**791,320**	92
1937–38	48,080	17,200	16,660	**81,940**	67,580	133,720	104,930	109,950	380	**416,560**	**498,500**	84
1938–39	51,770	26,480	16,990	**95,240**	43,890	201,200	180,990	146,400	2,780	**575,260**	**670,500**	86
1939–40	5,520	17,850	22,330	**45,700**	....	212,450	227,870	101,820	110	**542,250**	**587,950**	92
1940–41	29,660	820	3,200	**33,680**	....	118,090	165,700	175,590	1,200	**460,580**	**494,260**	93
1941–42	60,460	17,090	16,500	**94,050**	....	186,590	250,290	148,910	1,580	**587,370**	**681,420**	86
1942–43	65,880	570	1,880	**68,330**	....	115,880	184,400	201,510	2,870	**504,660**	**572,990**	88
1943–44	83,740	10,540	1,820	**96,100**	....	126,510	213,620	135,310	2,690	**478,130**	**574,230**	83
1944–45	53,380	20	....	**53,400**	....	136,600	237,250	178,290	2,770	**554,910**	**608,310**	91
1945–46	34,300	2,390	90	**36,780**	....	84,100	145,520	173,110	950	**403,630**	**440,460**	92
1946–47	3,990	6,140	3,901	**14,040**	....	2,870	31,240	194,720	4,770	**233,600**	**247,640**	94
1947–48	500	1,357	6,925	**8,782**	....	383	14,492	92,950	2,412	**110,237**	**119,019**	93
*1948	....	....	5,506	**5,505**	....	1,717	52,837	121,768	....	**176,322**	**181,828**	97

These records of catch have been supplied by the Canadian Bureau of Statistics and the Province of British Columbia, the Washington Department of Fisheries, the Fish Commission of Oregon, the California Division of Fish and Game, and for the floater catch by the United States Fish and Wildlife Service.

* Figures in the final line of the table are for the calendar year 1948, and include fish caught in the spring of that year. San Diego landings for 1948 included with San Pedro area.

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BRITISH COLUMBIA FISH BY-PRODUCTS

(Not Including Vitamin Oils)

Year	Number of Active Plants	Fish Meal Tons	Herring Oil Gallons	Sardine or Pilchard Oil Gallons	Other Fish Oils Gallons	**Total Fish Oils Gallons**	Year
1948	16	32,002	3,324,686	.....	248,675	**3,573,361**	1948
1947	17	12,773	1,551,165	.....	227,162	**1,778,327**	1947
1946	13	9,469	896,615	88,718	293,486	**1,278,819**	1946
1945	15	21,123	1,344,461	1,307,211	223,651	**2,875,323**	1945
1944	15	20,852	1,018,597	2,373,013	156,812	**3,548,422**	1944
1943	16	29,109	814,156	2,554,996	308,500	**3,677,652**	1943
1942	16	22,814	686,516	1,309,793	456,013	**2,452,322**	1942
1941	16	16,494	599,885	1,845,164	.....	**2,445,049**	1941
1940	14	32,216	2,131,797	1,052,912	252,259	**3,436,968**	1940
1939	15	17,534	1,383,341	199,957	298,681	**1,881,979**	1939
1938	15	17,079	689,630	2,513,990	282,569	**3,486,189**	1938
1937	12	22,011	1,230,960	2,026,662	354,450	**3,612,072**	1937
1936	12	17,578	667,579	1,411,331	343,042	**2,421,952**	1936
1935	11	12,488	116,320	1,951,328	258,131	**2,325,779**	1935

total catch should exceed 200,000 tons. Permission for packers to pool their permits.

5. In order to insure compliance with the voluntary measures, the packers proposed that every processor post bond of $5,000. Each offense would mean forfeiture of the bond, and no fish would be delivered to any processor unless such bond was posted. Any boat violating the size limit would forfeit the entire catch. All forfeited funds would be used for further expansion of the sardine research program.

6. The present Sardine Advisory Committee was to be constituted as an ex-officio committee of the Fish & Game Commission; the committee, jointly with the Bureau of Marine Fisheries to undertake the formulation of a long-range program of regulation of the sardine fishery.

All the recommendations were to be voluntary, except for the 100,000 tons allotment and the size of 8", which were to be enforced by the Fish & Game Commission.

The report of the Sardine Advisory Committee stated that it did not believe that commercial fishing was to blame for the failures of the previous two seasons, but rather unknown oceanographic causes were at fault.

The report stated that the committee was unable to determine whether the failure was cyclical or not, but that further research was necessary.

In August a proposition to limit the bag of sardines to 50,000 or 100,000 tons for the entire Pacific Coast was proposed at a meeting of the Pacific Marine Fisheries Commission at Bellingham. Action was not expected to take place on the proposition until some time later, although the demand was renewed before the end of the year.

Following long days of bargaining, Monterey boat owners, fishermen, and plant operators agreed on a price of $67.50 per ton, Aug. 5, and the boats went out that night, four

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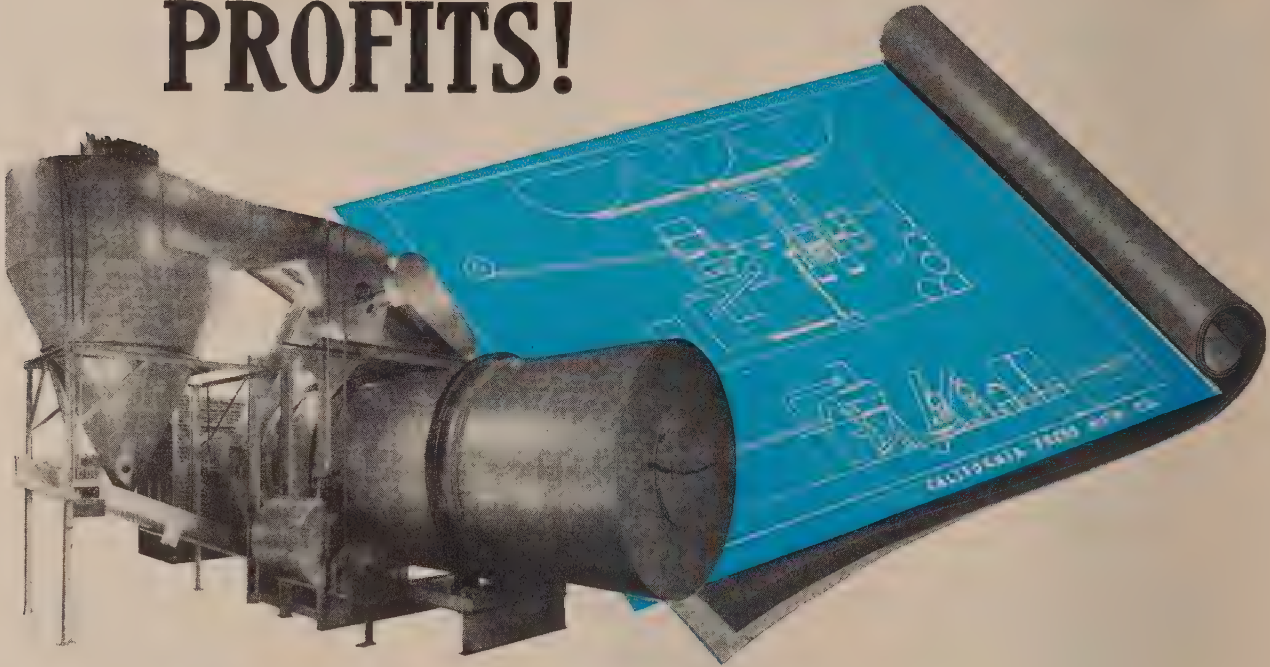

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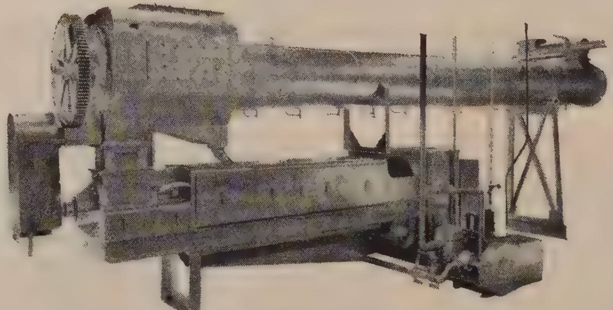

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PACIFIC NORTHWEST FISH BY-PRODUCTS

(Not Including Vitamin Oils)

YEAR	Oregon: Number Active Plants	Oregon: Fish Meal, Tons	Oregon: Sardine or Pilchard Oil, Gallons	Oregon: Other Fish Oils, Gallons	Oregon: Total Fish Oils, Gallons	Washington: Number Active Plants	Washington: Fish Meal, Tons	Washington: Sardine or Pilchard Oil, Gallons	Washington: Other Fish Oils, Gallons	Washington: Total Fish Oils, Gallons	YEAR
1948	4	1,228	114,928	....	114,928	9	3,349	....	211,930	211,930	1948
1947	4	2,040	228,558	17,626	246,184	8	1,631	44,800	156,001	200,801	1947
1946	3	1,633	120,336	13,391	133,727	10	3,826	186,690	154,733	341,423	1946
1945	3	907	....	26,000	26,000	7	2,894	79,464	141,754	221,218	1945
1944	2	1,200	....	50,000	50,000	5	901	960	64,500	65,460	1944
1943	3	1,365	32,000	26,000	58,000	6	2,901	277,627	78,000	355,627	1943
1942	2	861	25,014	8,200	33,214	6	2,003	27,787	168,600	196,387	1942
1941	4	2,969	398,235	....	398,235	11	4,168	400,102	152,389	552,491	1941
1940	5	592	114,717	....	114,717	11	1,451	35,656	145,174	180,830	1940
1939	6	3,933	833,300	....	833,300	8	4,026	672,066	103,500	775,566	1939
1938	6	2,933	718,830	....	718,830	10	4,986	1,153,339	74,392	1,227,731	1938
1937	5	2,775	689,159	....	689,159	6	3,886	808,396	125,400	933,797	1937
1936	9	2,864	481,512	70,985	552,497	4	1,710	193,467	82,800	276,267	1936
1935	7	4,763	1,104,389	39,985	1,144,374	2	1,032	....	110,960	110,960	1935

days after opening of the season, Aug. 1.

$67.50 Price Prohibitive of Reduction

The price of $67.50 was to prevail in San Francisco and San Pedro also. During the 1947-48 season price ranged from $45 at the beginning of the season to $115 per ton as the "famine" year drew to a close.

During the 1946-47 season the price of sardines was $30 per ton, but it was reliably reported that some loads were landed for $60 per ton. And in December, 1947, the price did go to $60 per ton.

The price of sardines has varied from a low of $4 per ton in 1932 to the $115 per ton officially reported at the end of the 1947-48 season.

The price was $11 per ton from 1926 through 1929. It dropped to $8 in 1930, and 1931 only to go as low as $4 in 1932, rising to $7 in 1933.

The following year saw sardines at $7.50 per ton, rising to $8 in 1935, and to $10 in 1936. The price took a jump in 1937 to $13, yielding $2 of that advance in 1938.

During the 1940-41 season the price was $10.50 per ton, and in 1941 it rose to $17 per ton. The price in succeeding seasons was set by the OPA at $22 per ton, and stayed there through the 1945-46 season.

When the 1948-49 season ended fishermen were getting $50 per ton for their fish.

Monterey's fishing fleet delivered 892 tons of good quality sardines to the 13 canneries on Cannery Row the morning of Aug. 11, creating the first wave of optimism since fishing began Aug. 5. Some 150 tons were landed at Moss Landing Aug. 11.

The few sardines landed in San Francisco were trucked in for the most part, and San Francisco's home fleet of 12 purse seiners or so sailed south to fish out of Monterey or San Pedro.

On Aug. 12, an estimated 1,000 tons was landed at Monterey, and although the catches were not comparable to those of the "good old days," quality of the fish was high, and sizes ranged well above the legal limit of 8".

Northern California's sardine fishing for the September dark showed a catch barely better than that of the poor season preceding. Monterey fishing perked up for a couple of days right after Labor Day but dwindled again.

Best day of all was 1,422 tons on Sept. 8 but even this quantity was under the average day's catch of a normal season, and made a sorry comparison with the record delivery which saw 8,938 tons landed at Monterey in a single day in September, 1945.

Price-Cut Suspends Operations

Southern California's sardine season opened Oct. 1 in a blaze of catches and optimism but within a week had fizzled. Packers, deciding they had been too generous in meeting the fishermen's demand for $67.50 per ton, offered $45. With a few exceptions the fleet of 150 seiners tied up.

Friday, Oct. 1, saw 6,541 tons brailed; the following day, 4,564 tons. With the fleet operating on a five-day week, that ended deliveries until Oct. 5. On that day 7,306 tons were flumed, and the following day, 6,820 tons.

Thus in four days canneries had

1948 — California Miscellaneous Fish Oil and Meal — 1948

MONTH	San Pedro Area: Oil, Gallons	San Pedro Area: Meal, Tons	San Diego Area: Oil, Gallons	San Diego Area: Meal, Tons	Northern California: Oil, Gallons	Northern California: Meal, Tons	**California Totals: Oil, Gallons**	**California Totals: Meal, Tons**
January	14,842	867	7,498	287	8,504	435	**30,844**	**1,589**
February	4,318	689	9,107	468	9,544	247	**22,969**	**1,404**
March	9,611	406	7,018	338	6,457	131	**23,086**	**875**
April	6,071	500	11,974	632	2,639	25	**20,684**	**1,157**
May	11,257	830	12,941	727	1,045	40	**25,243**	**1,597**
June	8,172	497	17,121	916	528	11	**25,821**	**1,424**
July	29,120	1,012	26,569	1,162	424	8	**56,113**	**2,182**
August	79,123	1,661	58,093	1,677	3,220	29	**140,435**	**3,367**
September	77,014	1,272	41,645	1,521	29,762	270	**148,421**	**3,063**
October	23,699	644	34,621	1,059	9,704	105	**68,024**	**1,808**
November	12,305	1,312	13,681	647	100	1	**26,086**	**1,960**
December	23,696	707	41,222	1,395	1,748	17	**66,666**	**2,119**
Totals	**299,228**	**10,397**	**281,490**	**10,829**	**73,675**	**1,319**	**654,393**	**22,545**

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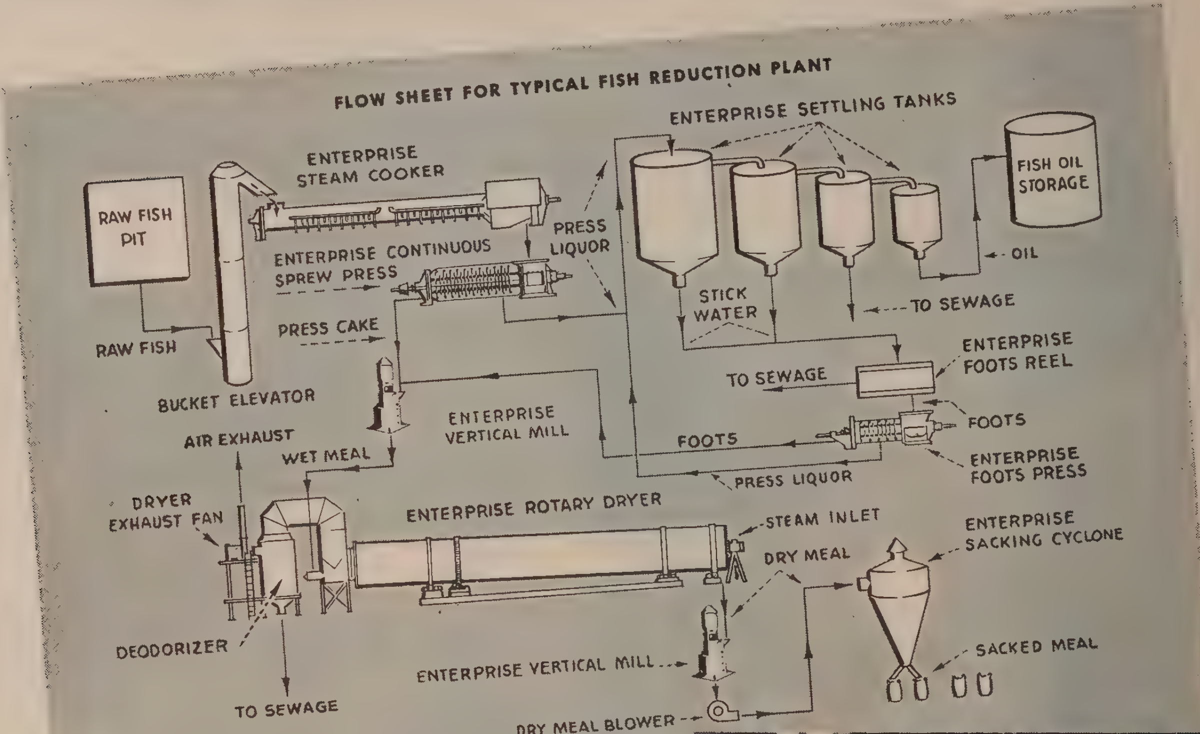
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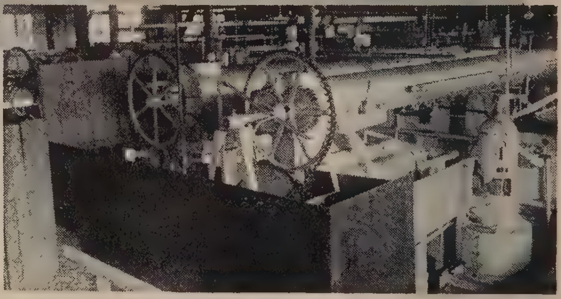

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California Sardine Oil Yield Per Ton

Season	San Francisco District, Gallons Oil per ton of fish	Monterey District, Gallons Oil per ton of fish	San Pedro District, Gallons Oil per ton of fish	San Diego District, Gallons Oil per ton of fish	Total
1930 – 31.......	47.5	43.2	26.3	....	**117.0**
1931 – 32.......	47.1	43.1	28.5	....	**118.7**
1932 – 33.......	43.0	45.6	29.1	....	**117.7**
1933 – 34.......	39.6	37.0	31.3	17.7	**125.6**
1934 – 35.......	41.7	44.5	30.7	24.7	**141.6**
1935 – 36.......	49.9	46.8	27.9	21.0	**145.6**
1936 – 37.......	41.3	39.1	18.9	17.9	**117.2**
1937 – 38.......	36.3	36.6	19.3	11.1	**103.3**
1938 – 39.......	40.2	35.6	19.8	13.4	**109.0**
1939 – 40.......	45.5	38.7	15.5	5.0	**104.7**
1940 – 41.......	43.8	38.6	18.7	18.3	**119.4**
1941 – 42.......	43.8	38.2	21.9	16.7	**120.6**
1942 – 43.......	42.4	38.0	19.9	14.7	**115.0**
1943 – 44.......	43.5	38.0	20.7	18.9	**121.1**
1944 – 45.......	45.0	43.4	27.4	16.3	**132.1**
1945 – 46.......	49.7	43.0	24.0	21.5	**138.2**
1946 – 47.......	24.3	36.5	24.5	19.9	**105.2**
1947 – 48.......	17.8	23.7	23.9	32.1	**97.5**
Grand Total..	**773.4**	**709.6**	**428.3**	**269.2**	**2,149.5**

received 25,131 tons and the panic was on.

Oct. 7 they called a halt, except for Coast Fishing Co., Wilmington; and Southern California Fish Co., Terminal Island. Operators generally had decided they couldn't pay more than $45 per ton, and so informed fishermen and boat owners. The latter declared they wouldn't accept and a strike was on.

With sardines at $67.50 packers declared they stood to lose $20 on each ton going into the reduction system. Consequently they were concerned with packing every sardine brailed into their plants. It was estimated that during the October dark as high as 16 and even more cases per ton were being packed, but at a high labor cost, with much overtime.

On the other hand the boat owners had their story, too, and packers sympathized with them. Costs of operations, new nets and gear, shipyard repair and services had skyrocketed, and they had to have a raw fish price that would show them a profit and permit the fishermen a reasonable share.

Fish were available in immense quantities during the early October fishing. Skippers estimated that the fleet could have taken more than 10,000 tons per day if their vessels had not been on limits of from 25-75 tons. The record landing for southern California is 8,990 tons, set Oct. 1, 1946.

In Monterey the fleet didn't go out Oct. 7 due to the uncertainty over price of fish and were idle for some time thereafter. Monterey canners had goods backing up on them and said they couldn't afford to reduce the fish for meal and oil. Moreover, due to the maritime strike, and a slowdown in the domestic market, they couldn't afford to pack much fish at $67.50.

Boats had been going out on limits of from 25-40 tons in Monterey.

By the end of the early October bright, San Pedro had forged ahead of Monterey in the amount of sardine tonnage produced. However, it had taken Monterey two months to catch 26,523 tons of sardines, while San Pedro had produced over 28,000 tons of sardines in 10 days. Both figures were far ahead of the totals for the year previous.

Monterey had one bumper day when the fleet delivered 2,700 tons of sardines, and 170 tons of mackerel—the largest day's catch since 1946.

San Francisco continued in eclipse as a sardine port with the total landed there to Oct. 9 of 231 tons. Most of this had been trucked in from Monterey Bay or southern California.

In November California's voters marched to the polls and gave a resounding "NO!" to the propositions that would have banned commercial fishing on San Francisco Bay, and purse seining south of Pt. San Simeon.

Proposition No. 6 to stop commercial fishing on San Francisco Bay and its tributaries got 1,185,971 votes in favor, and 1,781,935 votes against; while Proposition No. 15 which would have stopped purse seining south of Pt. San Simeon got 1,040,583 votes favorable and 1,962,200 votes against.

"Master Plan" for Research Offered by Industry Committee

In November a master plan for sardine research which had been worked out by the California Marine Research Committee of which Julian G. Burnette, San Francisco, is chairman, was released. Plans indicated that it would be under way in 1949. It was developed by the technical advisors of the committee consisting of scientists representing the Division of Fish & Game, the U. S. Fish & Wildlife Service, the Scripps Institution of Oceanography, and the California Academy of Sciences.

The price to fishermen for California sardines stabilized at $50 per ton, and the northern California fleet went out the night of Nov. 22 for the first time since Oct. 6.

At the start of the 1948-49 season the price had been set at $67.50 per ton. Processors later on during the season found they were unable to pay this price and make a profit on their goods. The price in Monterey then went to $45 per ton, but no fishing was done, although fishermen appeared willing.

Finally on Nov. 22 came the word from San Pedro that fishermen and processors there had agreed on a price of $50 per ton, and the Monterey craft went out that night on that basis.

What really threw the Monterey waterfront into a dither was the fact that as of Nov. 22 when the $50 price came through from San Pedro, Monterey fishermen had orders for approximately 2,000 tons of fish at $45. Word from San Pedro cancelled this arrangement.

The Monterey fleet tied up first Oct. 6 when processors announced that due to a low and fluctuating market they could not afford to pay $67.50 per ton for sardines. Offers of $45 per ton by processors was rejected by boat owners and fishermen. For a few days a compromise price of $60 per ton sent some boats out. Then fishermen and boat owners rejected this price until the entire fleet could sail with some guarantee of selling on limit.

About Nov. 12 boat owners and fishermen agreed to accept the $45 price, but processors were said by fishermen and boat owners to have failed to order enough fish to warrant sailing of the entire fleet.

Some fairly good catches were chalked up after the fleet finally sailed from Monterey Nov. 22. One day some 1,750 tons were netted,

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another day 1,313 went into the hoppers. As the season neared its close the size of the fish became larger. On Dec. 9, although the catch was small, the size of the fish averaged 10-11 inches, as compared to the small fish of earlier in the season.

Several Plants Lost and Damaged

Disaster laid a light hand on California's sardine fleet during the year, but some of the state's sardine processing plants didn't fare so well.

The floating reduction plant *Redondo* sank at her moorings at Parr-Richmond Terminals, Pt. San Pablo. She was operated by Jack Cardinalli and partners at Pt. San Pablo for a number of years. She had a capacity of about 10 tons per hour.

She was purchased several years ago by Dante Crivello and partners from the Redondo Fish Products Co., operated by Mr. Cardinalli, and processed fish under the name of McLaughlin Fisheries.

The Benicia Food Products Co. cannery and reduction plant at Benicia, Calif., burned to the ground with an estimated loss of $300,000. Managing partner Vito B. Alioto has not announced whether a new plant will be erected at this site or not.

Previous to the fire one of the company's reduction plants had been sold to a Maine fish packing concern. Other reduction plants were sold during the year. The plant of the St. Anne Freezing & Packing Co., San Francisco, was also sent to Maine, while the Monterey plants, the Ronda Fisheries, and the Ferrante Co. reduction plants, were sold and shipped to South Africa.

Oil and Meal Markets, 1948

Market observers felt that next season should be a good one from the market standpoint because during the 1948-49 season the demand for meal was good, and the outlook is for increased fish meal consumption if the price stays competitive.

During the season the price ranged from a low of $1.70 per unit of protein, per ton of 2,000 lbs., to a top in December of $2.45 per unit of protein. The market was active during the year and absorbed large quantities of Canadian herring meal.

The California sardine oil market fluctuated within narrower margins during the year. The high was 16-16½c per lb., and the low was about 13½c with the bulk of the oil selling at 15c.

There was a notable lack of buying support from consumers outside of the drying oil trade.

As noted before the high price of raw material and the strong market for canned goods over-powered the market for sardine by-products, and this compelled plants to can as much fish as possible and to reduce as little as possible. As a result, few, if any, straight reduction plants operated at all in the state during the year.

Pacific Coast Fish Meal — 1916-1948

Year—	Alaska (Tons)	Washington (Tons)	Oregon (Tons)	California (Tons)	British Columbia (Tons)	Total (Tons)
1916	1,594	....	100	535	....	2,229
1917	1,858	3,186	190	3,481	1,220	9,935
1918	600	1,885	95	8,734	1,977	13,291
1919	1,218	1,114	350	11,153	1,847	15,682
1920	3,928	352	136	8,856	466	13,738
1921	678	1,354	300	6,317	489	9,138
1922	1,958	1,216	40	9,027	911	13,152
1923	3,635	992	150	9,238	823	14,838
1924	5,560	607	275	15,328	1,709	23,479
1925	9,302	1,395	300	22,936	4,551	38,484
1926	12,093	822	325	15,767	10,543	39,550
1927	7,704	956	500	21,374	16,659	47,193
1928	10,713	670	425	28,390	15,331	55,529
1929	13,353	1,554	460	43,496	21,208	80,071
1930	12,847	1,046	400	36,276	17,542	68,111
1931	8,704	714	228	22,440	19,561	51,647
1932	10,168	757	143	27,500	15,450	54,018
1933	11,435	1,085	210	58,879	6,752	78,361
1934	14,341	876	280	95,193	12,654	123,344
1935	15,818	1,032	4,763	103,772	16,090	141,475
1936	15,051	1,687	2,864	126,143	21,948	167,693
1937	19,636	4,012	2,775	93,897	25,630	145,950
1938	17,066	4,977	2,933	97,451	21,006	143,433
1939	17,477	4,651	3,933	105.169	19.468	150,698
1940	8,144	1,528	592	86,137	31,899	128,300
1941	11,740	4,168	2,969	102,812	24,312	146,001
1942	3,540	1,608	861	79,003	26,474	111,486
1943	7,280	3,231	1,365	86,151	24,919	122,946
1944	8,777	901	1,200	96,853	20,852	128,583
1945	11,188	2,894	907	78,653	21,123	114,769
1946	15,869	3,826	1,633	52,895	10,561	84,784
1947	14,232	1,631	2,040	37,065	12,773	62,611
1948	12,683	3,349	1,228	40,906	32,453	90,619

Alaska Herring Fishery Disappointing in 1948

Virtual failure of the Southeast Alaska herring fishery in 1948, plus the lack of any mature fish in the second portion of the Prince William Sound fishery left the industry's experience in the year very disappointing in spite of the excellent production encountered in the Kodiak Island district.

With an increased quota and predictions for continued gains in abundance, the Southeast Alaska fishery of 1948 ran into a sharp and unexplained reversal. Its catch was most disappointing at all times during the season. The 1948 herring quota for this area had been set at 400,000 bbls., but the total catch did not run to more than one-third this amount.

Prince William Sound's Late Fishing Falls to Nothing

Fishing during the early part of the Prince William Sound herring season was quite favorable, and the original quota of 150,000 bbls. was caught well in advance of the end of the quota period. In view of this fact an additional 30,000 bbls. of quota was granted. About half of this was caught to the end of the first week in August, when fishing suddenly fell flat.

As result of failure to find fish during the last 12 days of the quota period, ending August 20, the fleet ran-out the first half of the PWS season with about 15,000 bbls. of quota uncaught.

The slack period of fishing was used for deeping the nets and in preparation for the fall fishing—which never came. The fleet faithfully prospected during late August and all of September, but without finding any mature fish.

The Prince William fleet not only searched the sound carefully but worked far out to sea. Although the inside waters were alive with tiny herring, evidently one and two years

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old, there was a complete lack of mature fish.

Kodiak Island Herring Run Far Above Expectations

The Fish and Wildlife Service had not expected a very good run of herring in Kodiak waters in 1948 and the quota was set at 300,000 bbls. Good fishing saw this caught-up before the end of August, with fish still abundant.

In view of this, an additional 60,000 bbls, was added to the original amount. By the middle of September this was also about gone and the industry asked for a 50,000-bbl. second extra to run-out the season Oct. 15.

The industry was finally notified by the Kodiak agent of the FAWS on Oct. 3 that the 360,000-bbl. quota had been filled and fishing must stop. The fishermen immediately went to work stripping their seines, and had carried the work so far that the next day they could not re-hang them when word was received of the tardy granting of a 30,000-bbl. extension.

This procrastination in deciding upon the quota, and delay in informing the industry, cost it heavily, as fish were reported plentiful at the time of premature closure.

Catch for the Kodiak district, counting a slight excess of quota, plus out-of-quota-area fishing, was approximately 370,000 bbls.

Alaska Herring Plants Active in Year 1948

Alaska herring plants which operated during the 1948 season were:

Kodiak Island—Chatham Strait Fish Co., Zachar Bay; Wakefield Fisheries, Port Wakefield; Oceanic Fisheries Co., Port Vita; Southwestern Fisheries Co., Iron Creek; San Juan Fishing & Packing Co., Uganik Bay.

Prince William Sound—Port Ashton Packing Corporation, Port Ashton; San Juan Fishing & Packing Co., Port San Juan; Chatham Strait Fish Co., Crab Bay; Oceanic Fisheries Co., Port Oceanic.

Southeast Alaska—Oceanic Fisheries Co., Port Conclusion; Buchan & Heinen Packing Co., Port Armstrong; Storfold & Grondahl Packing Co., Washington Bay; Newport Fisheries Co., New Port Walter; Arentsen & Co., Big Port Walter; Fidalgo Island Packing Co. Pillar Bay; Alaska Reduction Co., Port Herbert.

CALIFORNIA FISH REDUCTION PLANTS

MONTEREY DISTRICT

Ace Packing Co., Inc., Frank Verga	Moss Landing
Aeneas Sardine Products Co., Frank Enea Lucido	Monterey
Atlantic Coast Fisheries Co., J. R. Perry	Monterey
California Frozen Fish Company, Sal Ventimiglia	Monterey
California Packing Corp., Don T. Saxby (2 plants)	Monterey
Carmel Canning Co., J. R. Perry	Monterey
Custom House Packing Co., F. J. Leard	Monterey
Del Vista Packing Co., W. O. Lunde	Monterey
Edgewater Packing Co., C. J. Broad	Monterey
Enterprise Packers, Sebastian Sollecito	Monterey
Hovden Food Products Corp., K. Hovden (2)	Monterey
Hovden Food Products Corp., K. Hovden (2)	Moss Landing
Lone Wolf Packing Co., Wilbur Sandholt	Moss Landing
Lucido Fisheries, Angelo Lucido	Monterey
Magnolia Packing Co., W. B. Hornblower	Monterey
Monterey Canning Co., Magnus Flause	Monterey
Monterey Fish Products, Inc., Frank Lucido	Monterey
Moss Landing Fisheries, F. J. Arnone	Moss Landing
Oxnard Canners, S. A. Ferrante (2)	Monterey
Peninsula Packing Co., G. M. Dollar (2)	Monterey
Port Costa Packing Co., Frank Richey	Moss Landing
San Carlos Canning Co., Angelo Lucido (2)	Monterey
Santa Inez Fisheries, Inc., Wm. C. Morehead	Moss Landing
San Xavier Fish Packing Co., F. E. Raiter	Monterey
Sea Beach Packing Co., Sal Palma	Monterey
Sea Wolf Packing Co., Wilbur Sandholt	Moss Landing
Sun Harbor Packing Co., Jack Crivello (2 plants)	Monterey
Thomas Fisheries, Anthony N. Thomas	Moss Landing
Western Fish Products Co., K. Hovden	Moss Landing
Western Sardine Co., Inc., Joe DiMaggio	Monterey

SAN FRANCISCO DISTRICT

American Sardine Co., Matt Martin	Benicia
F. E. Booth Co., Inc., A. H. Mendonca	San Francisco
Calif. Fish Products Co., E. L. Roesling	Pt. San Pablo
Carquinez Fisheries, John Costanza	Pt. San Pablo
Cypress Fisheries, W. L. Martignoni	Pt. San Pablo
East Bay Fisheries, F. J. Mullins	Pt. San Pablo
Edible Fish Meals & Oils, Alex Inlach	Pt. San Pablo
Fish-Dee-Lish Corp., E. L. Roesling	Pt. San Pablo
Fish Packers, Inc., Mrs. Pearl Kirchmann	McNear's Pt.
Gardenia Fisheries, Mrs. Pearl Kirchmann	Pt. San Pablo
Golden State Fisheries, C. J. Garibotti	Benicia
Elwyn C. Hale Fisheries, Mrs. Mabel E. Hale and Elwyn C. Hale (2 plants)	Pt. San Pablo
Hoffman Packing Co., E. L. Roesling	McNear's Pt.
J. D. Packing Co., J. A. Davi and Gus Bruno (2)	San Francisco
Keystone Fisheries, Jack Blodgett	San Francisco
Lansing Fisheries, W. L. Martignoni	San Francisco
Maritime Industries, Gib Hunter	Field's Landing
Martinez Food Canners, John Costanza	Martinez
Monitor Fisheries, E. C. Webber	Pt. San Pablo
Northern Packing Corp., Geo. Christo	San Francisco
Old Capitol Packers, Inc., E. L. Roesling	McNear's Pt.
Ozol Packing Co., Frank Mezin	Ozol
Pittsburg Canners, Inc., J. G. Burnette	Pt. San Pablo
Pt. Edith Fisheries, Inc., Charles Cohn	Port Chicago
Polarine Fisheries, Inc., E. T. Meakin	Pt. San Pablo
Princeton Packers, A. M. Patrick	Princeton
Red Rock Fisheries, Inc., J. H. Dempsey (2)	Pt. San Pablo
Redondo Fish Prod. Co., Jack Cardinalli (2)	Pt. San Pablo
Richmond Fisheries, Inc., Julian G. Burnette	Pt. San Pablo
Royal Soap & Tallow Co., L. Martinelli	San Francisco
San Pablo, Barge, E. M. Darrimon	Pt. San Pablo
San Pablo Fisheries, J. H. Dempsey	Pt. San Pablo
Sardine Fisheries, Ltd., Frank Mezin	Ozol
Tamalpais Fishing & Packing Co., J. J. Dorsey (2)	Pt. San Pablo
Valianos, Inc., John Valianos	San Francisco
Winged Victory Fish Prod. Corp., Geo. J. Christo	San Francisco

SAN PEDRO DISTRICT

American Sea Food Products Co., David B. Oliver	Wilmington
Cal-Cap Fisheries, Tony Ostoich	Wilmington
Calif. Marine Curing & Pkg. Co., Max J. Gorby	Terminal Island
Calif. Sea Food Co., Meyer Simon	Long Beach
Coast Fishing Co., J. R. Biven	Wilmington
Franco-Italian Packing Corp., Jos. Mardesich	Terminal Island
French Sardine Co., Joseph J. Bogdanovich (2)	Terminal Island
K & M Fisheries, M. D. Marsh	Long Beach
Pan-Pacific Fisheries, Inc., R. L. Puccinelli	Terminal Island
South Coast Fisheries, Inc., Peter A. Kuglis	Terminal Island
South Pacific Canning Co., M. D. Marsh	Long Beach
Southern Calif. Fish Corp., G. K. Breitenstein	Terminal Island
Terminal Island Sea Foods, Ltd., Herbert C. Davis	Terminal Island
Van Camp Sea Food Co., Gilbert C. Van Camp	Terminal Island
West Coast Packing Corp., Albert Vignolo	Long Beach
Wilmington Fisheries, Emil Guerrero	Wilmington

SAN DIEGO DISTRICT

American Processing Co., Lawrence Oliver	San Diego
High Seas Tuna Packing Co., Earl Nielsen	Pt. Loma
Sun Harbor Packing Co., Jack Crivello	San Diego
Westgate Sea Products Co., W. Wade Ambrose	San Diego

LOWER CALIFORNIA (MEXICO)

La Industrial Ensenada, Arturo Paredes	Ensenada
Pesquera del Pacifico S. de R. L., J. A. Marales	Sauzal

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For the first time in a number of years, the 1948 Alaska herring operations started with no lost time due to argument over prices.

When negotiations opened the fishermen were asking 27½c per bbl., with nine shares for nine men. The packers on the other hand were offering 20c. (They would be under the necessity of paying an extra share to the captain).

Settlement was finally reached on the basis of 22c per bbl., with the provision that those fishermen who stayed for the full season would receive a bonus of 1c per bbl., making the price actually 23c.

182 Whales Taken in 1948 Resumption of B.C. Whaling

A total of 182 whales were caught in North Pacific waters during 1948 as a result of the operations of the whaling fleet of Western Whaling Corporation, which entered that field for the first time last spring.

One hundred and twelve Humpbacks were caught, 28 Sperm, 40 Finback and two Sei.

Figures on the volume of oil and meal produced are not available, but in view of the number of whales caught it is estimated that output would comprise approximately 200,000 American gallons of oil and 300 tons of bone and meat meal.

In addition, some whale meat was sold in retail markets.

Western Whaling Corporation, headed by Clarke Gibson, represents a partnership of Gibson Brothers, British Columbia Packers, Ltd., and Nelson Fisheries, all of Vancouver.

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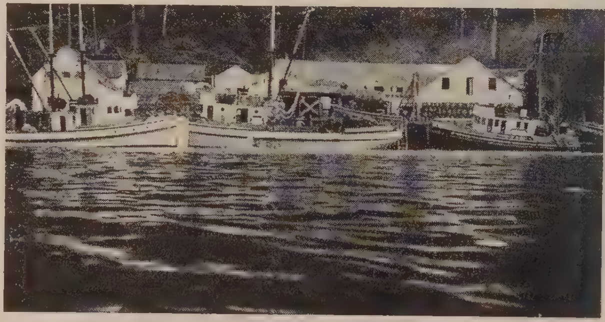

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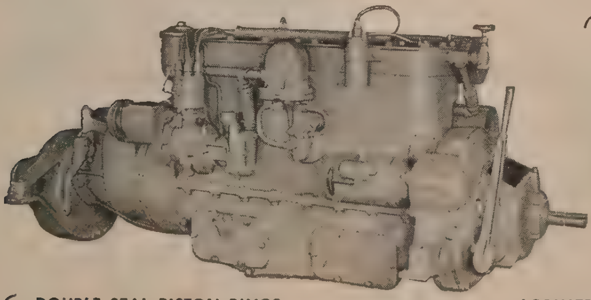

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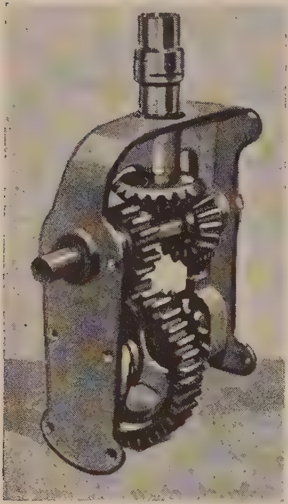
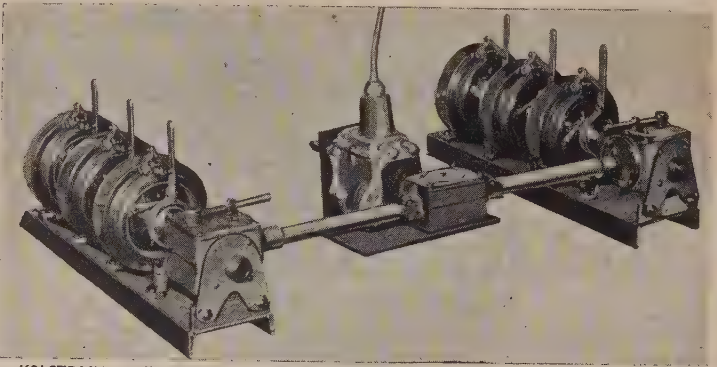
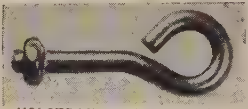


KOLSTRAND Steering Gear Units made in 1:1, 2:1 and 2½:1 ratios. Also available are topside units and special steering units made to order. Also a complete line of sizes of No.1 Mahogany wheels and bronze wheels.



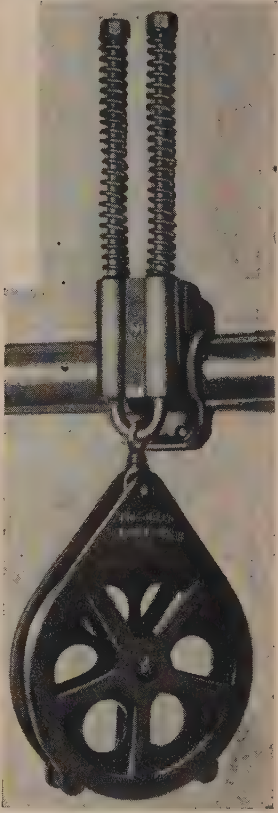
KOLSTRAND Trolling Gurdy equipped with transmission and reverse gear boxes. All bronze gurdy equipped with 1" stainless steel shaft. Oilite bearings throughout, galvanized 7" channel bases. Built to any specification as to number of spools, shaft extensions, gear boxes, etc.

We also incorporate the Hydraulic Hoist Corp. Unit with our Gurdies and Winches, which provides variable speeds in either direction, positive brake and free wheeling.



KOLSTRAND patented Solid Eye Trolling Tubing Connector.

KOLSTRAND patented Swivel Eye Trolling Tubing Connector.



KOLSTRAND Bow Line Shock Absorber and 6" KOLSTRAND Trolling Block, equipped with Oilite bushings. We also stock 4" blocks.

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15
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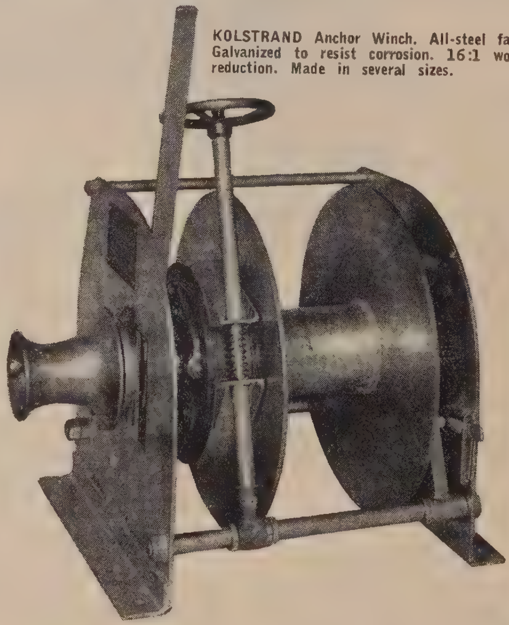
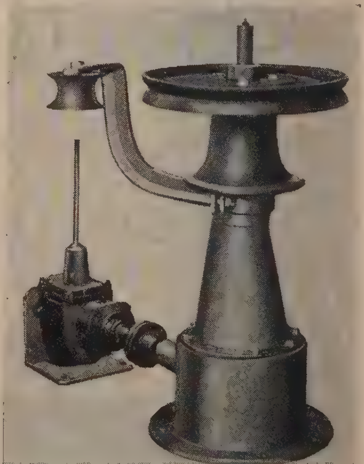


KOLSTRAND Anchor Winch. All-steel fabricated. Galvanized to resist corrosion. 16:1 worm gear reduction. Made in several sizes.



KOLSTRAND Halibut Gurdy, showing transmission hookup. All-steel fabricated. Galvanized to resist corrosion. Also available are various sizes and weights of sheaves and side rollers.

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★ **Special Buckle Swivels.**
★ **Trolling Lead Snaps.**
★ **Galv. Main Pole Brackets.**
★ **Bronze Swivel Bow Pole Brackets.**
★ **Trolling Pole Cross Tree (Spreader).**
★ **Anchor Bow Rollers.**
★ **Crab Hoists.**

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Pacific Coast Frozen Fish--1928 to 1948

YEAR	HALIBUT, Pounds	SALMON, Pounds	STEELHEAD AND FILLETS Pounds	SABLEFISH, Pounds	MISCELLANEOUS, Pounds	Total Pounds	YEAR
1928	20,180,501	23,522,228	1,736,900	3,037,875	3,147,845	**51,625,349**	1928
1929	23,192,029	20,285,535	1,989,936	2,467,317	3,881,054	**51,815,871**	1929
1930	21,262,804	20,142,524	1,795,703	3,706,823	4,377,468	**51,285,322**	1930
1931	19,274,638	18,706,304	1,787,279	2,065,327	3,317,959	**45,151,507**	1931
1932	14,943,916	19,099,265	1,084,689	1,904,579	1,828,499	**38,860,948**	1932
1933	21,197,099	21,101,484	1,368,364	1,851,856	2,620,049	**48,138,852**	1933
1934	25,010,373	25,181,600	1,082,339	2,354,183	3,731,735	**57,360,230**	1934
1935	22,193,028	27,979,608	695,447	4,158,382	4,288,100	**59,314,565**	1935
1936	24,483,127	24,168,556	888,677	3,817,582	3,849,238	**57,202,180**	1936
1937	25,611,959	28,809,866	723,857	5,964,158	4,227,376	**65,337,216**	1937
1938	26,290,123	29,019,550	794,183	4,608,638	6,091,588	**66,804,082**	1938
1939	27,884,761	19,812,999	544,865	5,036,206	6,313,548	**59,592,379**	1939
1940	30,989,043	25,106,033	281,986	5,339,661	8,207,464	**69,924,187**	1940
1941	32,267,665	23,961,770	93,541	5,019,374	10,963,419	**72,305,769**	1941
1942	32,334,253	26,256,142	249,336	7,983,957	16,986,000	**83,809,688**	1942
1943	25,882,523	25,930,418	4,447,875	7,546,624	20,223,179	**84,030,619**	1943
1944	37,668,595	31,748,145	9,199,424	9,777,304	17,200,082	**105,593,550**	1944
1945	36,879,253	44,991,950	8,115,197	8,552,441	30,774,204	**129,313,045**	1945
1946	36,941,548	38,036,107	10,661,450	8,611,842	22,910,725	**117,161,672**	1946
1947	42,294,602	29,928,104	4,454,941	2,633,912	12,660,753	**91,972,312**	1947
1948	45,098,451	30,376,166	8,619,585	8,570,289	20,778,163	**113,432,654**	1948

NOTE:—Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover the quantities of frozen fillets of all varieties of fish reported. Data in this table based on individual reports of principals and custom storages to this journal.

Alaska Frozen Fish Packs--1928 to 1948

YEAR	HALIBUT, Pounds	SALMON, Pounds	STEELHEAD AND FILLETS Pounds	SABLEFISH, Pounds	MISCELLANEOUS, Pounds	Total Pounds	YEAR
1928	9,328,837	7,275,009	4,105	623,857	161,332	**17,393,140**	1928
1929	11,789,477	5,819,643	3,000	514,405	268,857	**18,395,382**	1929
1930	11,859,772	6,217,498	....	511,249	168,870	**18,757,389**	1930
1931	6,641,793	5,071,593	4,431	254,856	594,392	**12,567,065**	1931
1932	2,332,728	5,058,857	1,275	51,284	61,461	**7,505,605**	1932
1933	5,851,556	4,102,999	3,747	91,066	93,841	**10,143,209**	1933
1934	6,133,142	5,534,916	27,272	167,725	155,453	**12,018,508**	1934
1935	5,021,708	4,662,272	7,600	633,412	221,066	**10,546,058**	1935
1936	7,287,861	5,284,030	24,091	834,140	88,705	**13,518,827**	1936
1937	7,465,551	5,794,466	2,500	1,924,817	305,149	**15,492,483**	1937
1938	6,904,640	7,918,897	4,274	773,787	68,305	**15,669,903**	1938
1939	6,389,488	4,783,751	2,465	1,525,600	280,794	**12,982,098**	1939
1940	8,310,553	6,304,064	11,413	1,824,532	682,721	**17,133,283**	1940
1941	7,564,940	6,119,050	....	1,720,977	924,420	**16,329,387**	1941
1942	8,720,056	7,908,717	8,606	4,851,974	361,554	**21,850,907**	1942
1943	11,068,724	9,114,694	....	3,986,438	825,505	**24,995,361**	1943
1944	19,214,203	10,753,715	....	5,413,503	1,892,846	**37,274,267**	1944
1945	19,353,649	13,374,086	....	5,955,388	3,396,849	**42,079,972**	1945
1946	14,966,616	12,036,956	30,000	4,519,989	2,075,530	**33,629,091**	1946
1947	20,638,301	10,197,755	4,597	886,535	383,473	**32,110,661**	1947
1948	26,020,134	9,582,232	165,370	5,065,056	5,290	**40,838,082**	1948

NOTE:—Since 1942 Steelheads have been combined with Salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported. Data in this table based on individual reports of packers and custom cold storages to this journal.

Puget Sound Frozen Fish Packs--1928 to 1948

YEAR	HALIBUT, Pounds	SALMON, Pounds	STEELHEAD AND FILLETS Pounds	SABLEFISH, Pounds	MISCELLANEOUS, Pounds	Total Pounds	YEAR
1928	3,929,600	5,737,402	72,399	1,676,530	1,091,008	**12,506,939**	1928
1929	4,365,139	5,737,367	118,034	1,339,912	1,272,772	**12,833,224**	1929
1930	4,008,690	6,767,538	58,246	2,057,845	2,114,206	**15,006,525**	1930
1931	7,124,976	7,034,178	57,815	941,986	742,543	**15,901,498**	1931
1932	6,241,135	4,764,945	11,375	1,045,588	470,872	**12,533,915**	1932
1933	8,575,289	8,685,729	†160,080	842,039	456,298	**18,719,435**	1933
1934	9,592,971	8,276,309	† 54,479	1,381,287	1,306,520	**20,611,566**	1934
1935	7,056,953	10,996,930	....	1,740,122	1,415,122	**20,939,915**	1935
1936	7,395,485	6,704,971	....	1,309,243	811,273	**16,220,972**	1936
1937	8,490,747	10,121,808	....	2,314,399	1,578,453	**22,505,407**	1937
1938	8,174,462	7,796,087	....	2,248,790	2,342,902	**20,562,241**	1938
1939	7,795,768	4,488,450	....	1,887,336	1,827,266	**15,998,820**	1939
1940	8,645,576	6,748,021	....	1,832,112	1,600,432	**18,826,141**	1940
1941	9,440,017	7,569,858	....	1,348,723	2,345,540	**20,704,138**	1941
1942	6,815,874	5,608,307	Fillets	1,221,946	3,066,177	**16,712,304**	1942
1943	4,250,010	2,530,755	429,394	860,577	6,846,616	**14,917,352**	1943
1944	5,237,071	4,264,315	2,893,179	2,305,848	3,777,952	**18,478,365**	1944
1945	6,728,420	9,030,403	4,193,268	1,071,769	5,673,660	**26,697,547**	1945
1946	8,050,947	6,388,388	3,895,400	1,714,185	2,807,240	**22,856,160**	1946
1947	4,933,377	4,241,310	1,658,152	921,204	1,004,330	**12,758,373**	1947
1948	7,152,574	4,355,399	2,393,487	1,519,514	797,882	**16,218,856**	1948

†All Steelheads frozen on Puget Sound were Columbia River fish shipped to Seattle for freezing.

NOTE:—Since 1942 Steelheads have been combined with Salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported.

Puget Sound Silver Salmon Catch by Gear — 1935-1947

Year	Inside					Outside		Total Numbers of Fish Caught	Year
	Gill Net	Purse Seine	Reef Net	Troll	Indian Fishery*	Purse Seine	Troll		
1935	114,172	441,625	8,738	6,715	4,247	436,943	432,251	**1,444,691**	1935
1936	76,873	145,857	10,981	7,686	5,499	212,202	305,695	**764,793**	1936
1937	83,584	245,544	9,395	3,449	5,889	260,805	198,203	**806,869**	1937
1938	138,474	150,541	21,448	2,837	7,919	4,814	174,437	**500,470**	1938
1939	98,949	232,101	11,251	3,333	12,851	204,526	218,607	**781,618**	1939
1940	100,316	130,607	12,627	2,312	14,899	127,551	279,832	**688,144**	1940
1941	104,383	141,283	8,265	102	21,731	326,879	255,679	**858,322**	1941
1942	48,179	109,118	8,894	....	9,172	32,386	120,356	**328,105**	1942
1943	45,379	154,453	10,701	946	6,482	275,661	104,257	**597,879**	1943
1944	128,660	148,371	9,123	915	11,993	1,394	44,917	**345,373**	1945
1945	113,892	237,432	9,847	528	17,247	121,536	73,619	**574,101**	1947
1946	70,481	108,768	11,750	384	11,896	180	86,726	**290,185**	1946
1947	126,410	286,301	22,066	249	17,405	82,110	200,551	**735,098**	1944

*Includes salmon taken by drag seines, set nets, and traps, within the boundaries of Indian reservations.

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IMPORT ANALYSIS

1948 – Pacific Canned Shad Pack – 1948

COMPANY	LOCATION	SHAD 1-Lb. Talls	SHAD ½-Lb. Flats (8-doz.)	SHAD ROE ½-Lb. Flats and Ovals (4-doz.)
Barbey Packing Corporation	Astoria, Ore		1,148	465
Columbia River Packers Association	Astoria, Ore	6,331		3,048
Del Mar Canning Co	Warrenton, Ore		1,112	
Martinez Food Canners	Martinez, Calif	828		199
Paragon Packing Co	Astoria, Ore	142		355
Perfection Smokery	Seattle, Wash		250	
Point Adams Packing Co	Hammond, Ore	1,053		499
Union Fishermen's Cooperative Packing Co	Astoria, Ore	151		36
Washington Fish & Oyster Co	Seattle, Wash	350		
Total		**8,855**	**2,510**	**4,602**

Canned Shad and Shad Roe -- 1920 to 1948

YEAR	OREGON-WASHINGTON SHAD (full cases)	OREGON-WASHINGTON SHAD ROE (4-Doz. ½'s)	CALIFORNIA SHAD (full cases)	CALIFORNIA SHAD ROE (4-Doz. ½'s)	Total, Pacific Coast SHAD (full cases)	Total, Pacific Coast SHAD ROE (4-Doz ½'s)	YEAR
1920	8,251	892	3,936	908	**12,187**	**1,800**	1920
1921	871	6			**871**	**6**	1921
1922	1,410	174			**1,410**	**174**	1922
1923	2,128	826			**2,128**	**826**	1923
1924	4,478	300	3,000		**7,478**	**300**	1924
1925	6,120	1,672	6,564	4,320	**12,684**	**5,992**	1925
1926	14,457	1,416			**14,457**	**1,416**	1926
1927	16,081	830	8,787		**24,868**	**830**	1927
1928	17,560	3,264	7,475	2,884	**25,035**	**6.148**	1928
1929	15,944	2,630	7,005	2,612	**22,949**	**7,242**	1929
1930	10,783	1,724	1,792	2,414	**12,575**	**6,138**	1930
1931	757	2.156		3.442	**757**	**5 598**	1931
1932	361	1,614		1,714	**361**	**4,328**	1932
1933	1,020	976		1,314	**1,020**	**2.290**	1933
1934	8,098	3,302		1,150	**8,098**	**4,452**	1934
1935	5,495	2.060	5,068	2,270	**10,563**	**4,330**	1935
1936	4,131	2.004	15,124	5,178	**19.255**	**7,182**	1936
1937	3.380	1,084	4,677	1,684	**8.057**	**2.768**	1937
1938	3,194	1.186	7,655	4 102	**10,849**	**5.288**	1938
1939	8,472	2,963	9,193	3.772	**17,665**	**6,735**	1939
1940	6,234	4,453	12,187	3,756	**18,421**	**8.209**	1940
1941	4,269	3,470		100	**4,269**	**3,570**	1941
1942	7,713	5,137	20,058	4,887	**27,770**	**10,021**	1942
1943	2,249	3,901	11,516	6,252	**13,765**	**10,153**	1943
1944	3,806	4,556	12,854	4,171	**16,660**	**8,727**	1944
1945	1,810	4,265		536	**1,810**	**4,801**	1945
1946	9,629	6,589			**9,629**	**6,589**	1946
1947	17,892	7,860			**17,892**	**7,860**	1947
1948	10.537	4,403	828	199	**11.365**	**4,602**	1948

Shad canning in 1948 reversed the sharp upward thrust of 1947, but with that exception was stronger than in some time.

The same is not true of shad roe, however, and it must be assumed that the fresh and frozen trade absorbed a larger share of the roe than in recent years.

California returned to shad canning—with one packer—in 1948 for the first time since 1945.

Never an important item in Pacific fish packing, shad stands as something of a by-product item for Columbia River operators.

Prohibiting of traps and seines by Oregon in the 1948 initiative vote is expected to reduce the supply of shad available from the Columbia River, as the gear banned accounted for a very substantial portion of the shad catch.

Rockfish Canning Suspended

Canning of rockfish flakes, which assumed considerable importance in 1946 and 1947, was entirely suspended in 1948, due to drying-up of the market.

In that year, and particularly early in 1949, canned rockfish was being offered widely at 10c per can, retail.

This could not have been greatly more than half the packers' cost.

Canning of smoked salmon likewise has been almost suspended, save for a few packers who had developed an established trade.

1948 – OREGON OCEAN FISH – 1948

(Salmon, Tuna and Pilchard Not Included)

SPECIES	OCTOBER 1947 Pounds	NOVEMBER 1947 Pounds	DECEMBER 1947 Pounds	JANUARY 1948 Pounds	FEBRUARY Pounds	MARCH Pounds	APRIL Pounds	MAY Pounds	JUNE Pounds	JULY Pounds	AUGUST Pounds	SEPTEMBER Pounds	Total
FLOUNDER	30,760	75,933	49,275	229,488	44,541	11,448	46,758	308,838	75,628	184,534	185,103	158,532	**1,400,838**
Halibut	3,976	4,371						266,737	123,586	42,696	9,646	20,206	**471,218**
COD:													
Ling	5,673	30,397	20,550	52,584	16,420	44,370	105,427	165,727	118,701	58,974	89,683	48,748	**757,254**
Sable	22,643	19,682	497	18,451	17,339	18	215	14,515	54,711	50,080	108,134	164,791	**471,076**
Rock	41,058	286,642	158,491	412,023	216,917	496,258	885,757	568,583	186,716	212,028	221,780	136,134	**3,822,387**
True Cod	162	1,156	211	112	699	223	1,507	3,965	14,214	4,011	2,256	692	**29,208**
SOLE:													
Petrale	24,724	52,601	30,730	61,266	13,007	58,119	208,485	400,229	629,496	455,720	546,884	80,230	**2,561,491**
Fringe	1,921	21,472	3,901	41,443	2,246	6,449	685	5,902	22,724		3,296	6,129	**116,168**
Point or English	28,275	122,864	71,227	177,039	64,120	74,629	160,412	210,816	1,023,044	694,510	417,440	220,779	**3,265,155**
Rex	9,380	5,465			114	96		1,105	34,180		27,994	39,267	**117,601**
Dover	149,102	8,847					186	161,559	338,067	1,137,777	453,847	392,665	**2,642,050**
Turbot	17,435	15,989	964	4,403	398	72,648	22,983	321,879	136,590	198,010	173,681	146,185	**1,111,165**
Miscel.	1,100	6,104				1,662	2,128	24,327	1,935	82			**37,338**
Red Snapper	266	53,646	12,618	21,991	5,185	73,076	90,852	222,115	8,440	3,352	99,783	27,728	**619,052**
Perch	111	81	328	699	508	856	2,372	2,601	2,474	439		9	**10,478**
Mackerel											174,200		**174,200**
Sea Bass				2,304			2,065	895	740	611	1,510	512	**8,637**
Scrap	60,254	82,619	11,005	32,744	6,976	202,874	885,935	27,447	8,081	4,999	137	51,140	**1,377,211**
Anchovy											17,462	44,894	**62,356**
Octopus					107	24	50		120			78	**379**
Rosefish									494	15,105			**15,599**
SHARK:													
Dogfish		49,005		49,948	38,280		66,494	16,000			16,000	118,000	**353,727**
Soupfin		740	56		16,004			33					**16,833**
Sand Dab		1,185	91	1,085	685								**3,046**
Herring				3,246	19,607	95,102							**117,955**
Miscellaneous		21				479	1,305	1,066		76	577		**3,524**
Total Fish	**396,840**	**838,820**	**359,944**	**1,108,826**	**463,153**	**1,138,331**	**2,483,616**	**2,724,339**	**2,779,941**	**3,063,004**	**2,549,413**	**1,659,719**	**19,565,946**

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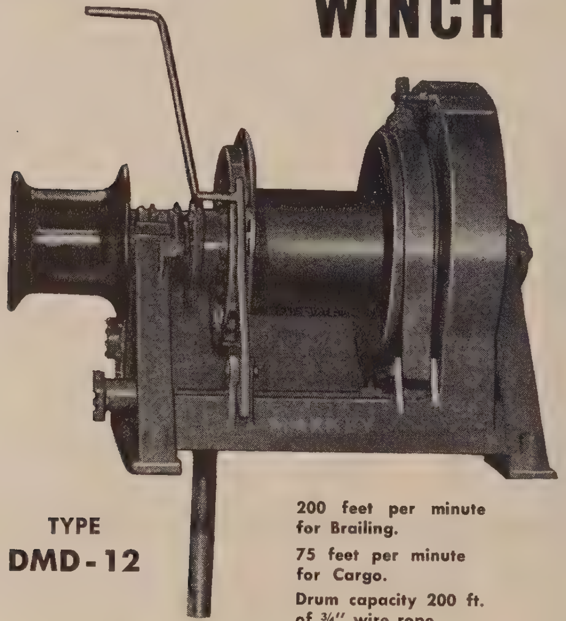

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1948 – PACIFIC STATES FROZEN FISH BY MONTHS – 1948

(Alaska Freezing Not Included)

VARIETIES	DEC. 1947	JAN. 1948	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food	284,190	210,900	78,540	438,156	505,307	324,342	147,802	94,704	208,091	281,484	472,701	399,127	**3,445,344**
Cod	11,585	3,839	9,485	27,250	27,539	34,205	14,735	5,235	3,557	70,618	6,890	19,985	**234,923**
FILLETS:													
Cod	6,621	10,278	4,029	9,695	77,741	88,866	58,805	26,309	13,852	63,319	95,249	20,131	**474,895**
Flounders (including Sole)	46,402	132,315	76,784	124,748	256,880	701,760	739,494	626,521	467,287	365,816	269,027	47,686	**3,854,720**
Lingcod	19,970	19,674	22,257	22,235	31,611	69,721	112,877	11,932	27,625	23,875	22,651	2,366	**386,794**
Mackerel		100				6,324	4,786	1,765	1,970	1,990	8,688	54	**25,677**
Other fillets	77,428	192,840	72,192	57,252	226,099	179,939	102,041	71,453	60,524	91,086	94,596	15,449	**1,240,899**
Flounders (including Sole and California Halibut)	10,217	3,837		4,610	5,003	24,325	22,738	64,083	20,315	39,428	6,101	14,794	**215,451**
Halibut	3,134				6,838	3,049,430	1,329,111	2,145,361	6,823	6,441	1,399	9,585	**6,558,122**
Herring, sea				12,225	10,010								**22,235**
Mackerel (except fillets, Spanish and King)	17,134	6,379	960	382	3,182	835	89			2,920	225		**32,106**
Sablefish	14,037	7,188	470	115	3,853	8,956	96,710	120,393	230,285	567,991	463,131	93,561	**1,606,690**
SALMON:													
King or Chinook	10				832	46,824	395,739	376,017	546,309	634,316	58,510	14,699	**2,073,256**
Silver or Coho	8,589			760	30,310		12,000	95,479	349,375	382,020	305,534	134,165	**1,318,232**
Fall or Chum	34,194									15,720	411,713	438,231	**899,858**
Pink								180					**180**
Steelhead Trout	8,591			555		3,378	363	2,104	15,592	43,386	7,962	33,620	**115,551**
Unclassified	187				1,775	4,898	1,230	13,999	30,519	436,086	143,081	8,320	**640,095**
Shad					470	96,439	74,633	41,995					**213,537**
Shad roe					1,408	8,045	2,050						**11,503**
Smelt	7,819			882,074	63,694	26,957	68,967	77,122	30,531	5,807	42,149	6,607	**1,211,727**
Swordfish								2,922	60,098	62,200	36,551	112	**161,883**
Tuna		396					265,786	2,382,530	952,568	351,070	519,218	452,060	**4,923,628**
Other Salt-water fish	218,568	271,692	108,944	647,807	308,816	680,536	592,418	313,290	535,797	466,796	280,419	226,204	**4,651,287**
Total	**768,676**	**859,438**	**373,661**	**2,227,864**	**1,561,368**	**5,355,780**	**4,042,374**	**6,473,394**	**3,561,118**	**3,912,369**	**3,245,795**	**1,936,756**	**34,318,593**
Shellfish:													
Clams	11,705	3,535		29,171	16,039	4,545	19,580	6,742	9,557	642	4,274	4,155	**109,945**
Crabs (including Crabmeat)	21,350	18,718	5,305	20,054	68,638	120,643	81,597	9,362	528	2,850	17,839	11,937	**378,821**
Lobster tails	59,201	82,913	56,143	56,212	2,879	13,817	1,916	315	35	4,562	602	10,649	**289,244**
Oysters	57,708	42,535	2,443	13,010	14,180	79,387	32,903	27,757	7,031	1,920	20,680	14,275	**313,829**
Scallops		1,892							1,000		4,100	150	**7,142**
Shrimp	14,068	82,865	141,678	202,631	33,244	7,360	10,947	1,900	2,582	8,357	95,195	153,049	**753,876**
Squid	8,232	13,285	39,570	33,658	11,045	120,790		117	32,083	9,700		2,000	**270,480**
Other Shellfish	3,525	10,592	5,385	4,523	7,860	770	2,640	3,969	2,305		1,600	220	**43,389**
Total Shellfish	**175,789**	**256,335**	**250,524**	**359,259**	**153,885**	**347,312**	**149,583**	**50,162**	**55,121**	**28,031**	**144,290**	**196,435**	**2,166,726**
Total Fish and Shellfish	**944,465**	**1,115,773**	**624,185**	**2,587,123**	**1,715,253**	**5,703,092**	**4,191,957**	**6,523,556**	**3,616,239**	**3,940,400**	**3,390,085**	**2,133,191**	**36,485,319**
1947 Totals:													
Fish	768,676	470,495	721,710	630,103	452,933	2,507,826	2,057,972	4,080,403	7,644,552	4,695,322	2,406,065	2,110,800	**28,546,857**
Shellfish	175,789	136,511	329,219	326,179	284,398	135,136	175,371	110,964	139,488	257,564	322,480	212,800	**2,605,899**
1946 Totals:													
Fish	663,363	480,824	1,048,588	1,177,120	1,494,538	4,431,074	5,770,129	4,987,946	5,237,465	4,424,173	5,156,746	3,312,396	**36,982,766**
Shellfish	190,012	300,788	224,902	199,328	269,980	286,704	181,552	93,817	67,220	37,659	156,792	173,888	**2,182,642**

1948 – OREGON FROZEN FISH HOLDINGS – 1948

SPECIES	DEC., 1947	JANUARY, 1948	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Bait and Animal Food	35,438	22,616	28,058	72,108	83,921	13,805	31,551	19,946	99,213	190,528	48,300	181,946
Cod, rock or red	4,196	4,071	4,338	3,405	253	125	357	46,658	639	639	646	916
Cod, true	....	....	....	....	....	....	....	....	....	20,421	20,421	20,181
FILLETS:												
Cod, rock or red	7,235	55,187	21,384	22,390	167,630	82,649	185,413	78,265	81,916	36,303	30,105	24,594
Cod, true	1,619	....	....	215	350	905	735	205	3,685	12,339	3,420	3,240
Flounder	19,226	20,663	9,147	860	3,932	30,473	20,751	61,799	54,518	57,825	62,159	56,739
Lingcod	10,890	3,842	4,397	2,977	11,072	14,490	7,627	3,440	7,172	1,490	4,808	10,171
SOLE: Dover	18,536	6,984	....	....	190	87,888	38,630	114,410	139,015	254,694	231,669	223,350
English	2,005	12,979	1,785	8,259	6,036	32,425	135,670	147,195	243,843	235,338	223,018	184,803
Petrale	1,849	4,752	1,762	3,230	17,420	60,140	114,075	174,595	302,652	258,872	231,663	177,742
Rex	390	....	....	....	....	....	....	....	....	....	....	....
Other	1,704	4,476	233	5,730	5,318	92,275	71,286	56,140	45,584	115,678	146,394	145,718
Other fillets	8,765	11,717	942	475	....	3,540	3,605	3,910	29,184	11,596	8,843	16,053
Flounder	....	....	....	90	40	23,335	28,175	40	....	....	....	....
Halibut	351,280	329,427	275,644	224,681	43,314	166,975	291,255	324,429	332,195	304,195	251,480	225,246
Herring, sea	6,978	26,407	6,818	7,470	23,929	....	19,953	5,258	5,218	15,885	5,609	5,373
Lingcod	2,868	5,410	894	5,541	17,304	39,173	82,459	72,915	7,735	19,685	23,708	6,709
Mackerel	....	....	....	....	....	290	30	285	30	30	30	....
Sablefish	14,648	4,226	4,342	2,393	3,853	2,009	27,158	30,530	64,066	174,473	138,193	119,269
Pilchard	....	....	....	....	....	....	....	....	....	....	16,675	....
SALMON:												
King or Chinook	150,004	165,360	130,746	110,587	111,124	2,000	4,282	467	157,145	157,949	113,827	171,232
Silver or Coho	110,519	97,859	71,254	55,742	57,758	....	....	365	10,650	19,496	64,840	131,137
Fall or Chum	1,917	2,929	1,717	1,717	....	....	....	....	....	....	10,997	99,344
Pink	100	100	....	....	....	....	....	....	....	....	....	....
Steelhead Trout	34,758	29,571	14,548	13,849	4,814	3,378	7,023	5,805	19,484	34,316	10,991	41,311
Unclassified	313,848	278,929	235,338	156,413	115,189	2,207	34,350	24,268	51,315	365,974	312,000	350,012
Sole	....	....	539	394	308	....	17,508	88	....	2,458	254	1,000
Shad	58,012	13,012	53,842	50,462	49,922	96,379	62,946	32,917	41,444	35,124	28,265	26,325
Shad roe	....	....	....	....	....	2,300	9,650	3,310	3,180	7,320	4,526	1,208
Smelt	12,275	6,587	4,665	695,292	674,249	70	494,810	281,104	396,241	365,816	325,362	274,570
Tuna	517,707	926,448	2,625	2,625	2,147	1,693,371	1,317	1,658,901	1,391,478	940,885	655,365	507,072
Unclassified	7,453	11,720	9,738	10,618	9,606	56,286	56,230	80,745	71,320	107,837	95,625	10,799
Total	**1,694,220**	**2,045,272**	**884,756**	**1,457,523**	**1,409,679**	**2,506,452**	**1,746,846**	**3,227,990**	**3,558,922**	**3,747,166**	**3,069,193**	**3,016,060**
Shellfish:												
Clams and Clammeat	6,064	7,238	4,856	46,594	28,620	1,026	87,385	84,057	26,271	25,013	42,192	90,812
Crabs and Crabmeat	16,365	23,225	4,560	4,343	10,050	15,080	48,542	6,062	1,295	1,000	910	560
Lobster tails, spiny	1,073	706	2,942	6,923	5,616	715	1,497	2,858	1,588	1,083	791	731
Oysters	5,766	6,612	798	2,124	1,150	3,004	2,476	4,398	1,536	3,168	3,021	3,561
Shrimp and shrimp meat	84,850	85,994	72,682	138,878	138,844	....	90,948	53,070	54,044	19,536	12,577	3,500
Squid	3,545	4,700	1,190	7,530	6,325	....	9,625	8,700	7,700	16,585	14,845	11,850
Scallops	390	3,967	2,793	2,869	1,354	....	726	4,032	4,324	3,632	4,743	2,965
Total	**118,053**	**132,392**	**89,821**	**209,261**	**191,959**	**19,825**	**241,199**	**163,177**	**96,758**	**70,017**	**79,079**	**113,979**
Total Fish and Shellfish	**1,812,273**	**2,177,664**	**974,577**	**1,666,784**	**1,601,638**	**2,526,277**	**1,988,045**	**3,391,167**	**3,655,680**	**3,817,183**	**3,148,272**	**3,130,039**
Cured Fish:												
Herring, salted cured	7,550	2,965	7,040	8,564	8,883	9,422	8,090	8,039	5,495	4,825	4,550	1,075
Salmon, mild cured	3,848	2,820	2,437	....	831	371	....	....	....	8,150	9,075	18,145
Other salted	4,100	10,015	4,830	7,876	4,720	5,580	5,168	4,745	4,625	4,024	2,500	3,875
Smoked fish	2,580	7,309	6,353	8,135	9,911	7,256	7,025	5,834	2,879	6,755	3,360	5,530
Total	**18,078**	**23,109**	**20,660**	**24,575**	**24,345**	**22,629**	**20,283**	**18,618**	**12,999**	**23,754**	**19,485**	**28,625**

PUGET SOUND SOCKEYE SALMON CATCH BY GEAR — 1935-1947

Year	Inside Waters				Pacific Ocean*	Total Number of Fish Caught
	Gill Net	Purse Seine	Reef Net	Indian Fishery‡	Purse Seine, Etc.	
1935	9,606	520,249	5,530	....	80,404	**615,849**
1936	19,150	412,678	18,984	986	2,287	**454,085**
1937	43,419	766,966	58,814	1,074	28,038	**808,311**
1938	77,247	1,305,167	24,424	....	2,493	**1,409,331**
1939	16,371	470,919	58,841	1,456	9,462	**557,049**
1940	58,180	511,489	80,152	2,438	4,463	**656,722**
1941	43,534	1,338,236	164,789	1,653	12,271	**1,560,483**
1942	36,974	2,748,287	136,874	725	13,363	**2,936,223**
1943	5,296	155,824	35,047	420	48,011	**244,598**
1944	19,685	263,851	42,565	22	115	**326,238**
1945	31,990	605,406	80,098	920	11,758	**730,172**
1946	48,473	3,162,177	125,696	1,207	255	**3,337,808**
1947	3,212	69,794	10,377	536	6,198	**90,117**

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* Pacific Ocean catch consists mainly of purse seine fish, but includes a few taken by trolls.

‡ Includes salmon taken by traps, drag seines and set nets within the boundaries of Indian reservations.

PUGET SOUND CHUM SALMON CATCH BY GEAR — 1935-1947

Year	Inside Waters				Pacific Ocean*	Total Number of Fish Caught
	Gill Net	Purse Seine	Reef Net	Indian Fishery‡	Purse Seine, Etc.	
1935	39,535	670,660	1,575	3,658	88	**715,516**
1936	243,952	518,954	3,225	17,230	736	**784,097**
1937	79,524	672,630	8,397	8,310	150	**769,011**
1938	71,193	702,996	7,811	20,177	9	**802,186**
1939	35,108	243,590	6,086	46,122	20	**330,926**
1940	65,321	469,053	4,855	83,043	203	**622,475**
1941	73,015	526,266	4,466	69,445	42	**673,234**
1942	55,928	546,567	5,158	36,425	....	**644,078**
1943	19,856	334,109	1,369	40,860	46	**396,240**
1944	27,678	235,091	1,365	56,171	446	**320,751**
1945	55,504	311,107	2,955	51,071	6	**420,643**
1946	70,729	1,125,227	14,920	40,058	5	**1,250,939**
1947	52,473	547,536	2,817	26,842	32	**624,094**

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* Pacific Ocean catch consists mainly of purse seine fish, but includes a few taken by trolls.

‡ Includes salmon taken by traps, drag seines and set nets within the boundaries of Indian reservations.

OREGON OCEAN FISH 1942-1948

Year	Sole					Halibut	Lingcod	Sablefish	Rockfish	Shark	Miscel.	Total
	Petrale	English	Dover	Turbot	Miscel.							
1942	3,745,146	227,793	2,308,508	13,046	2,101,706	765,541	988,211	623,776	1,715,952	1,255,619	464,815	**14,210,113**
1943	3,805,094	898,639	6,431,666	2,831,013	3,290,215	844,480	30,587	1,117,081	7,009,702	2,854,787	622,104	**29,735,368**
1944	2,019,143	1,057,701	1,593,469	700,147	1,133,372	651,255	1,208,051	568,370	11,266,874	546,817	585,232	**21,330,431**
1945	1,574,143	1,096,601	2,704,216	168,811	1,262,795	613,215	1,015,215	418,233	17,365,866	99,761	342,207	**26,661,063**
1946	2,984,092	3,950,609	3,197,988	297,708	1,411,975	816,854	1,150,803	1,016,470	10,671,012	57,683	779,793	**26,334,987**
1947	1,573,495	1,999,970	1,897,309	694,260	738,430	632,312	675,201	694.023	6,053,961	86,617	3,092,553	**18,138,131**
1948	2,561,491	3,265,155	2,642,050	1,111,165	271,107	471,218	757,254	471,076	3,822,387	370,560	3,822,483	**19,565,946**

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CALIFORNIA SALMON FISHERY

YEAR	EUREKA REGION Pounds	SAN FRANCISCO REGION Pounds	MONTEREY REGION Pounds	**Total Ocean Fishery Pounds**	SACRAMENTO REGION Pounds	**Grand Total Pounds**	YEAR
1926	3,808,135	936,330	51,755	**4,796,220**	1,287,859	**6,084,079**	1926
1927	3,385,349	1,488,746	717,048	**5,591,143**	920,786	**6,511,929**	1927
1928	2,774,315	815,815	334,659	**3,924,789**	553,777	**4,478,566**	1928
1929	2,750,560	658,718	1,054,096	**4,463,374**	521,310	**4,984,684**	1929
1930	3,501,539	1,008,233	279,415	**4,789,187**	1,213,607	**6,002,794**	1930
1931	3,940,911	428,298	91,471	**4,460,680**	949,850	**5,410,530**	1931
1932	3,360,778	122,009	80,900	**3,563,687**	1,267,051	**4,830,738**	1932
1933	3,390,482	157,485	569,907	**4,117,874**	448,967	**4,566,841**	1933
1934	2,893,725	818,812	286,230	**3,998,767**	401,707	**4,400,474**	1934
1935	3,906,728	337,751	219,715	**4,464,193**	888,888	**5,353,081**	1935
1936	3,479,716	447,548	145,194*	**4,072,458**	949,179	**5,021,637**	1936
1937	3,834,568	1,208,414	892,005*	**5,934,987**	974,871	**6,909,858**	1937
1938	1,853,715	117,549	199,657*	**2,170,921**	1,668,376	**3,839,297**	1938
1939	1,673,151	434,626	125,498	**2,233,275**	496,933	**2,730,208**	1939
1940	3,369,492	1,177,086	613,224	**5,159,802**	1,515,588	**6,675,390**	1940
1941	2,413,368	375,766	156,850*	**2,945,984**	844,963	**3,790,947**	1941
1942	2,255,862	1,642,017	165,393*	**4,063,272**	2,552,944	**6,616,216**	1942
1943	2,162,368	2,021,208	1,101,934	**5,285,510**	1,295,424	**6,580,934**	1943
1944	3,791,094	2,646,714	583,013*	**7,020,821**	3,265,143	**10,285,964**	1944
1945	4,627,714	2,431,954	853,086*	**7,912,754**	5,467,960	**13,380,714**	1945
1946	4,544,037	2,079,449	571,470*	**7,194,956**	6,463,245	**13,658,201**	1946
1947	5,868,577	1,485,657	749,870*	**8,104,104**	3,323,926	**11,428,030**	1947
1948	3,987,606	1,542,464	250,790*	**5,780,860**	1,742,685†	**7,523,545**	1948

* Includes a small amount of salmon landed in Santa Barbara Region.

† Does not include landings in October, November, December, 1948.

Yearly Landings of Food Fish by the Otter Trawl Fleet at Seattle

YEARS	SOLE AND FLOUNDERS				HALIBUT	TRUE COD	LINGCOD	SABLEFISH	ROCKFISH	MISCEL-LANEOUS	**Total**
	ENGLISH SOLE	PETRALE SOLE	OTHER SOLE, FLOUNDERS, ETC.	**Total**							
1942	6,464,323	535,981	696,129	**7,696,433**	200,726	547,422	2,698,605	280,232	1,049,269	2,894	**12,475,581**
1943	1,573,683	5,128,222	3,238,493	**9,940,398**	371,044	587,816	4,141,374	708,607	3,279,122	26,839	**19,055,200**
1944	793,910	4,395,513	174,242	**5,363,665**	....	370,696	3,770,160	949,742	4,356,659	23,085	**14,834,280**
1945	805,134	4,701,704	436,653	**5,943,591**	....	1,697,462	3,319,058	231,367	12,940,910	....	**24,132,388**
1946	1,925,867	3,513,573	120,669	**5,560,109**	....	1,733,868	1,976,631	514,852	6,104,157	21,626	**15,911,243**
1947	1,429,125	2,636,464	382,815	**4,448,404**	....	975,852	1,628,928	385,639	3,197,306	50,176	**10,686,315**
1948	2,879,316	3,724,386	691,999	**7,295,701**	....	2,185,854	2,537,301	223,651	6,416,604	240,909	**18,900,020**

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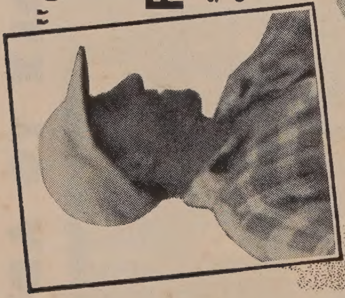

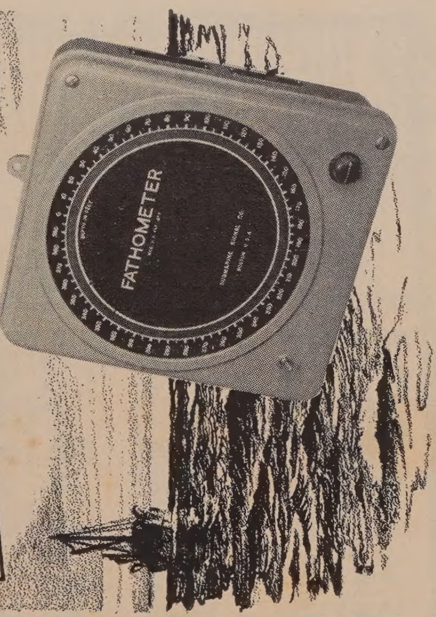

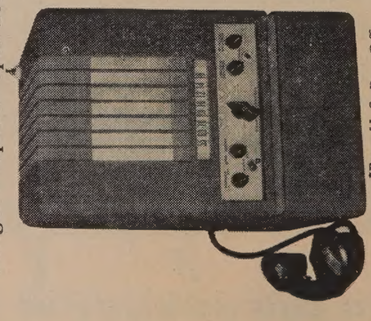

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Columbia River Frozen Fish Packs--1928 to 1948

YEAR	HALIBUT, Pounds	SALMON, Pounds	STEELHEAD AND FILLET Pounds	SABLEFISH, Pounds	MISCELLANEOUS, Pounds	**Total Pounds**	YEAR
1928		326,541	1,156,598	30,000	102,188	**1,615,327**	1928
1929	24,000	607,483	1,544,779	78,000	233,527	**2,487,789**	1929
1930	14,700	374,322	1,322,737		547,006	**2,258,765**	1930
1931	4,699	392,581	1,311,033	35,600	559,993	**2,303,906**	1931
1932		733,234	538,795	10,000	54,427	**1,336,456**	1932
1933	75,000	886,789	859,563		153,834	**1,975,186**	1933
1934	199,362	489,183	959,916	49,620	154,765	**1,852,846**	1934
1935	161,827	943,442	461,847	60,494	243,934	**1,871,544**	1935
1936	48,818	178,922	629,896	117,624	123,920	**1,099,182**	1936
1937	25,000	391,000	520,996	35,000	61,253	**1,033,249**	1937
1938	211,350	207,478	465,909	118,465	119,594	**1,122,796**	1938
1939	252,692	607,100	352,884	135,347	243,600	**1,591,623**	1939
1940	553,269	267,370	33,573	98,642	253,634	**1,206,488**	1940
1941	602,210	178,498	1,628	118,120	761,013	**1,661,469**	1941
1942	216,684	563,780	222,684	186,710	1,556,008	**2,745,866**	1942
1943	161,452	956,719	3,958,405	359,050	2,311,503	**7,747,129**	1943
1944	628,285	1,917,542	5,733,930	178,742	758,745	**9,217,244**	1944
1945	506,242	2,655,787	2,176,400	270,634	8,670,915	**14,279,978**	1945
1946	555,884	4,373,849	4,511,986	416,003	3,147,126	**13,004,848**	1946
1947	618,266	1,272,508	1,681,488	60,786	985,697	**4,618,745**	1947
1948	410,091	1,187,802	4,241,705	329,857		**6,169,455**	1948

NOTE:—Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover quantities of frozen fillets of all varieties of fish reported. Data in this table based on reports of principals and custom freezers to this journal.

Columbia River Blueback or Sockeye Salmon Landings 1935-1947

	Pounds of Fish Landed		
	Wash.	Ore.	Total Pounds
1935	7,621	38,069	**45,690**
1936	132,901	169,362	**302,263**
1937	89,000	245,641	**334,641**
1938	135,174	289,919	**425,093**
1939	71,360	199,064	**270,424**
1940	118,771	243,406	**362,177**
1941	157,364	347,901	**505,265**
1942	54,049	138,521	**192,570**
1943	30,829	116,173	**147,002**
1944	9,882	44,741	**54,623**
1945	2,887	5,786	**8,673**
1946	25,273	101,117	**126,390**
1947	154,838	543,469	**698,307**

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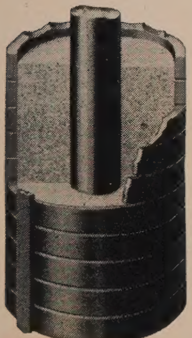

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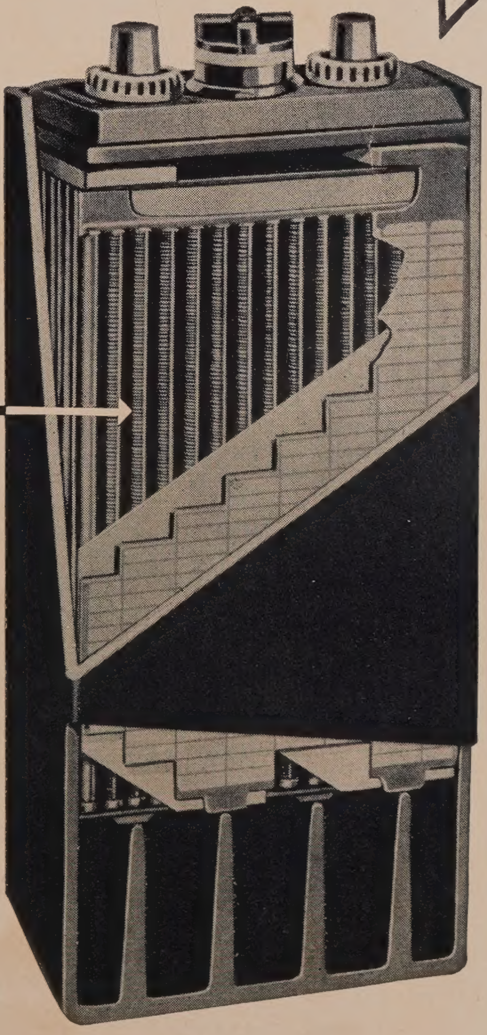

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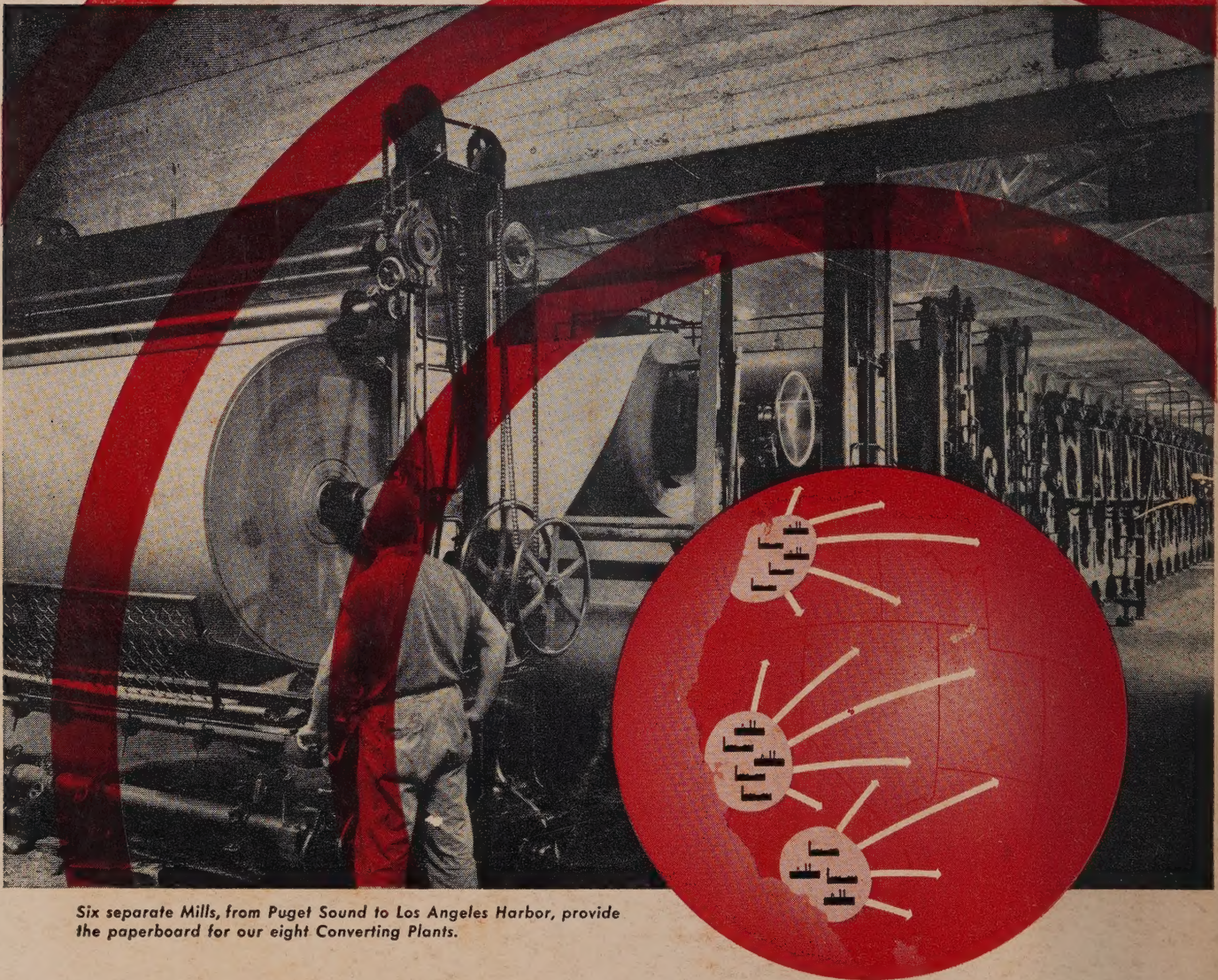

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